

Interrelationships among Teacher Effectiveness, Teacher Empathy and Emotional Intelligence: The Employment of Structural Equation Modeling

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Abstract

The significance of emotions and the cultivation of empathy in development within the realm of education has garnered increasing attention from educators in recent years. Likewise, the emotional intelligence (EI) of educators has emerged as a central factor influencing their effectiveness in educational contexts. Individuals possessing elevated levels of EI demonstrate a heightened awareness of their own emotions as well as those of others, enabling them to regulate their emotions in a manner that elicits desirable behavior from others. This study aimed to present a comprehensive model elucidating the interrelationships among teachers' effectiveness, empathy, and emotional intelligence, employing structural equation modeling (SEM) as the analytical approach. Accordingly, a sample of 201 English teachers at the institutional level from different cities in Iran participated in a quantitative correlational study. The results of Pearson correlation analysis revealed a statistically significant yet weak positive association between Emotional Intelligence and empathy. Moreover, empathy exhibited a positive and significant correlation with teachers' effectiveness. The findings further indicated a moderate positive correlation between Emotional Intelligence and effectiveness. Additionally, a positive path was observed connecting Emotional Intelligence and Empathy. Furthermore, both empathy and EI were found to be predictive of teachers' effectiveness. Hence, it can be concluded that the proposed model had an acceptable fit with the empirical data.

Keywords: Language Teachers, Effectiveness, Empathy, Emotional intelligence, Structural Equation modeling

Introduction

The significance of teaching effectiveness in the realm of education cannot be overstated, as it serves as a pivotal factor in promoting students' learning and academic achievements (Reddy & Rao, 2018). Afe (2003, p. 1) has put forth a definition of teaching effectiveness as "a style of

teaching characterized by the display of intellectual, social, and emotional resilience, a sincere concern for students' well-being, a positive mindset towards the teaching profession, and the capacity to inspire positive attributes and characteristics in students."

Empathy stands out as a paramount emotional and relational factor among various others. Its significance lies in the capacity it provides teachers to establish a classroom environment where every student feels content, liberated, embraced, engaged, respected, and understood (Stojiljkovic et al., 2011). Within the realm of education, educators have increasingly emphasized the significance of emotions and the cultivation of empathy as integral components of moral development (Goroshit & Hen, 2015; Makoelle, 2019; Whitford & Emerson, 2019). Davis (1980) outlines a comprehensive definition of empathy, comprising four sub-constructs: Perspective Taking, Fantasy, Empathic Concern, and Personal Distress. Perspective Taking refers to the natural inclination to adopt the psychological perspective of others spontaneously. Fantasy entails individuals' propensity to imaginatively immerse themselves in the emotions and actions of fictional characters in literature, films, and theatrical performances. Empathic Concern evaluates the presence of compassionate and caring emotions directed towards others. Personal Distress represents an unpleasant, self-centered emotional response, such as anxiety, worry, or discomfort, triggered by the apprehension or comprehension of another person's emotional state or condition (Davis, 1980).

The emotional intelligence (EI) of educators holds a central position in determining their effectiveness as professionals (Sutton & Wheatly, 2003). According to Goleman (1995), EI encompasses the ability to be cognizant of one's own emotions as well as the emotions of others, and to effectively manage them in order to foster understanding. Extensive research has pointed to the significant role of EI in determining organizational performance (Halbesleben & Buckley, 2004; Huang et al., 2010; Moon & Hur, 2011; Wong & Law, 2002). Individuals with elevated levels of EI possess a heightened awareness of their own emotions and the emotions of others, enabling them to regulate their emotions and evoke desirable behaviors from colleagues and subordinates in the workplace (Guy & Lee, 2015; as cited in Lee, 2017). EI is widely recognized as a valuable tool for enhancing job performance, and for educators, who operate within the context of human development and bear the responsibility of shaping future generations, it becomes particularly crucial to exhibit genuine emotional qualities that contribute to improved performance (Colomeischi, 2015). Within the instructional setting, educators encounter a range of emotions that can either impede or enhance their rapport with students. Furthermore, these emotions can exert a profound influence on educators' overall effectiveness.

Research Problem

Scholars endeavor to introduce arguments aimed at enhancing the quality of educators (Roosta & Bagheri, 2016). The behavior exhibited by ineffective or inexperienced teachers has a detrimental impact on students' academic progress (Jones, Jenkin, & Lord, 2006). Previous studies have consistently demonstrated positive outcomes, including a heightened recognition of the significance of emotions within educational settings (Maree & Mokhuane, 2007), an improved ability of instructors to be attuned to learners' emotions in various situations (Brackett et al., 2009), and enhanced skills in responding constructively to students' social-emotional needs (Brackett et al., 2009). It has been argued that insufficient attention has been given to the importance of adults

themselves becoming learners in the realm of social-emotional development (Cohen & Sandy, 2007, p. 71).

Numerous studies have examined the qualities that make teachers effective, considering perspectives from both teachers and students (Gardner 1994, Kashef & Ashrafi, 2023). Gardner (1994, as cited in Goleman, 1995) identified a range of intelligences within his multiple intelligence theory, highlighting the significance of interpersonal intelligence as a crucial quality. Interpersonal intelligence refers to the ability to understand and connect with others, comprehend their motivations, collaborate effectively, and according to Gardner, successful teachers possess high levels of interpersonal intelligence (as cited in Goleman, 1995).

Sutton and Wheatly (2003) emphasized the importance of emotional competence in educators for successful instructional delivery and the socio-emotional development of learners. Adeyemo and Chukwudi (2014) examined the impact of teachers' emotional intelligence and efficacy on their effectiveness. The findings revealed a positive and significant influence of emotional intelligence and teacher efficacy on teachers' overall effectiveness.

In relation to empathy, Cain and Carnellor (2008) explored the effects of the Roots of Empathy program on teachers' social-emotional intelligences and professional growth. The study demonstrated that the Roots of Empathy program had a positive and significant impact on the development of teachers' social-emotional intelligences. It also enhanced their professional learning and improved their awareness of the emotional competencies of the children they educate. Thus, the literature strongly supports the correlation between empathy and emotional intelligence, highlighting their profound effects on teacher effectiveness.

Given the variables of teacher effectiveness, teacher empathy, and emotional intelligence discussed earlier, it becomes crucial to develop a model that provides insights into the interconnections among these variables, particularly focusing on Iranian English teachers in the field of English Language Teaching (ELT). This model will be constructed using Structural Equation Modeling (SEM), which is a statistical technique that allows for the examination of complex relationships among variables. By utilizing empirical data, this research endeavor aims to address the existing research gap and promote a more comprehensive understanding of the factors that predict teachers' effectiveness.

The proposed model will shed light on how teacher empathy and emotional intelligence contribute to overall teacher effectiveness within the specific context of Iranian English teachers in ELT. By employing SEM, researchers will be able to analyze the direct and indirect relationships among these variables, providing a more nuanced understanding of how they interact and influence one another.

By examining the relationships among teacher effectiveness, empathy, and emotional intelligence in a specific cultural and educational context, this study aims to contribute to the broader field of educational research and provide practical implications for teacher training and professional development programs. The findings of this research will not only enhance our understanding of the factors that contribute to effective teaching but also offer valuable insights

into how educators can cultivate empathy and emotional intelligence to create supportive and enriching learning environments for their students.

Based on the objectives of the present study, the following research question was formed.

Does the proposed model of the relationships among teacher effectiveness, teacher empathy and emotional intelligence fit in SEM? Accordingly, the hypothesis stated for the present research study was “The proposed model of the relationships among teacher effectiveness, teacher empathy and emotional intelligence does not fit in SEM.”

Method

This study employed a quantitative correlational design. A correlational research design utilizes a non-experimental method to measure and understand the statistical association between two or more variables (Krause, 2018). To answer the research questions (correlation between three main variables), Structural Equation Modelling was used through AMOS to find the relationships among teacher effectiveness, teacher empathy and emotional intelligence.

Participants

The focus of this study was on Iranian EFL teachers who taught English at the institutional level. The accessible population consisted of English teachers working in various cities across Iran. A sample of 201 teachers participated in the study, including both male (N=91) and female (N=110) EFL teachers from different private institutes. Convenience sampling was used to select the participants. Their fields of study included English language teaching, Translation, and English literature. The age range of the teachers was between 25 and 34, and they had between 2 and 11 years of teaching experience.

Procedure

This correlational study collected quantitative data through an online link, with an estimated time of 25 to 30 minutes to complete three questionnaires. Due to the COVID-19 pandemic, the questionnaires were distributed electronically via a Google link, which was shared by teachers in their Telegram and WhatsApp groups. Participants were asked to provide demographic information such as age, gender, field of study, and years of experience. Upon completion, respondents could submit the form, and the researcher obtained both demographic data and questionnaire responses in a spreadsheet format.

Assessments and Measures

To assess teacher’s effectiveness, the Questionnaire on Teacher Effectiveness (QTE) designed and validated by Mishra (2010). To assess teachers’ EI, Schutte’s (1998) self-report emotional intelligence questionnaire was used which has four sub-scales of perception, utilizing emotions, managing self- relevant emotions and managing other’s emotions. For teachers’ Empathy, a scale constructed by Davis (1980) was used. The scale has four subscales of Perspective Taking, Fantasy, Empathic Concern and Personal Distress. All the questionnaires’

developers had reported high Cronbach alpha. Also, the reliabilities with this study participants are reported in the analysis section.

Figure 1 presents the proposed model of interrelationships among teacher effectiveness, teacher empathy and emotional intelligence. The correlation path between teacher empathy and emotional intelligence is proposed based on studies conducted by different researchers such as Okun, Shepard, and Eisenberg (2000), Austin, Evans, Goldwater and Potter (2005), Badea, and Pana (2010), and Rastegar, Razmi, and Mohammadi Ghavam (2011). The direct path from teacher empathy to teacher effectiveness was proposed based on previous studies of Bjekić (2000), Gupta and Mehta (2018), and Stojiljković et al. (2011). The direct path from emotional intelligence to teacher effectiveness was proposed based on previous studies (Adeyemo & Chukwudi, 2014; Sekreter, 2019; Singh, 2017).

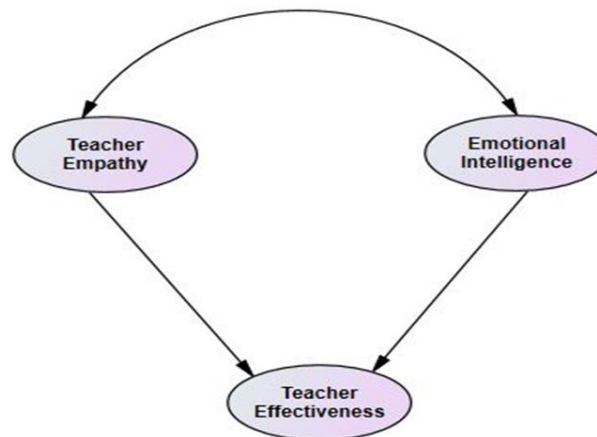


Figure 1. The proposed model

Data Analysis

The researcher gathered raw data from 201 Google Forms and imported them into SPSS software (version 24). Before analyzing the data, the participants' demographic information was examined. The reliability of the scales was assessed by calculating Cronbach's alpha, ensuring their psychometric properties. The normality of the data was evaluated using the K-S index, which determined the appropriate analysis procedure. Parametric data were analyzed using Pearson correlation, while non-parametric data were analyzed using the Spearman index. Finally, Structural Equation Modeling was employed to design and validate the proposed model.

Results

To begin with, the researchers conducted a Test of Normality to assess the normal distribution of the data. The outcomes of this test are displayed in Table 1, which provides a comprehensive overview of the Normality Test results. The Test of Normality is a statistical procedure used to determine whether the data follows a normal distribution or deviates

significantly from it. This step is essential in statistical analysis as it helps ensure the validity of subsequent analyses and interpretations.

Table 1

Kolmogorov-Smirnov Normality Test

	Value	df	Sig.
Teacher Empathy	.05	201	.20
Emotional Intelligence	.04	201	.20
Effectiveness	.06	201	.18

The reliability of the three questionnaires used in the study was assessed through Cronbach's alpha analyses, and the results are presented in Table 2.

Table 2

Cronbach Alpha Indexes after Reliability Analysis

Scale	Number of items	Cronbach alpha
Teacher Empathy	28	.82
Emotional Intelligence	33	.91
Effectiveness	48	.78

In order to examine the potential association between teacher empathy and emotional intelligence, Pearson correlation analysis was employed. The results of this analysis, presented in Table 3, revealed a statistically significant but weak positive relationship between these two variables ($r = .17, p < .05$).

Table 3

Pearson Correlation between Teacher Empathy and Emotional Intelligence

		Effectiveness	EQ	Empathy
Empathy	Pearson Correlation	.31**	.17*	1
	Sig. (2-tailed)	.00	.01	
	N	201	201	201

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

To find any significant relationship between teacher effectiveness and empathy, Pearson Correlation was used. The results (Table 4) indicated that there is a positive and significant correlation ($r=.31$, $p<.05$).

Table 4

Pearson Correlation between Teacher Empathy and teacher Effectiveness

		Effectiveness	EQ	Empathy
Empathy	Pearson Correlation	.31**	.17*	1
	Sig. (2-tailed)	.00	.012	
	N	201	201	201

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

To find any significant relationship between teacher effectiveness and emotional intelligence, Pearson Correlation was used. The results (Table 5) indicate that there is a moderate positive significant correlation between EQ and effectiveness ($r=.32$, $p<.05$).

Table 5

Pearson Correlation between EQ and teacher effectiveness

		Effectiveness	EQ	Empathy
EQ	Pearson Correlation	.32**	1	
	Sig. (2-tailed)	.00		
	N	201	201	

* . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed)

Researchers employed Structural Equation Modeling (SEM) to explore the interrelationships among the variables of interest and assess the adequacy of the proposed model. Using SEM in this study has several advantages. It allows for the examination of both direct and indirect relationships, providing a nuanced understanding of how variables influence each other.

Additionally, SEM provides statistical measures to assess the goodness of fit, ensuring that the proposed model aligns well with the observed data. This aids researchers in evaluating the validity and reliability of the proposed relationships, ensuring the model accurately represents the underlying theoretical framework. Overall, the use of SEM in this study enhances understanding of the interrelationships between variables and contributes to the existing knowledge in the field. To check the strengths of the causal relationships among the components, the standardized estimates were examined. Figure 2 shows the model of the interrelationships. As is indicated in the figure, an estimate is displayed on each path.

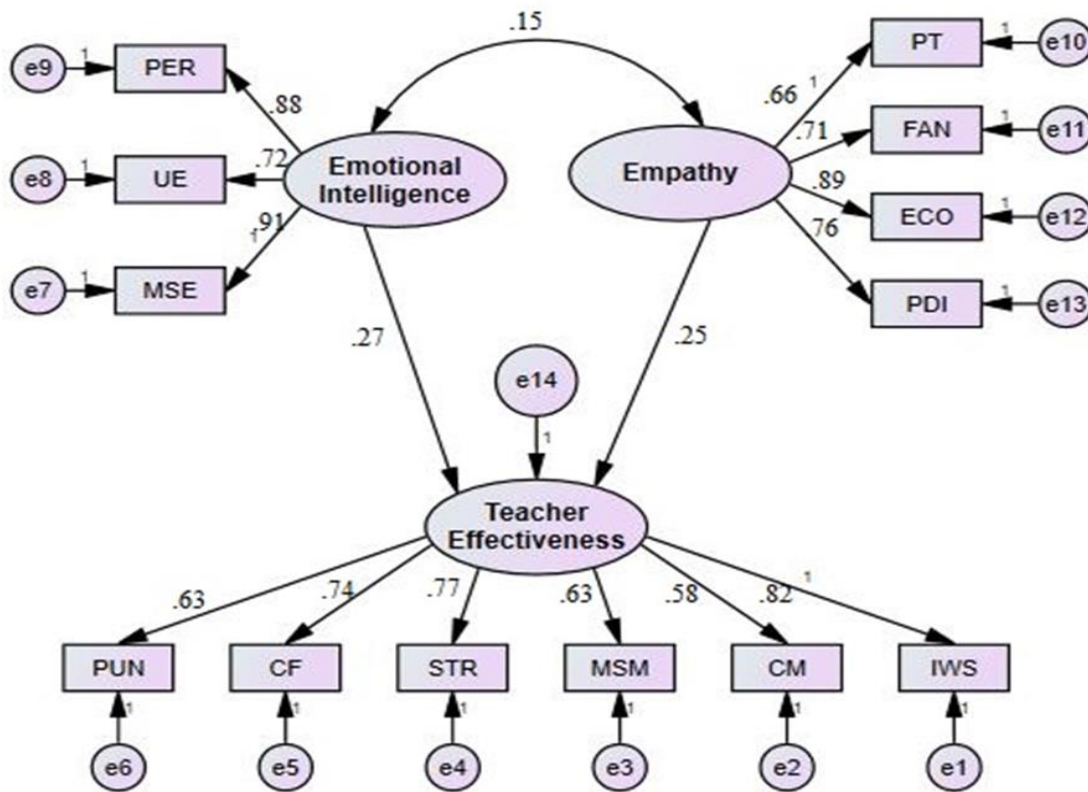


Figure 2. The model of the interrelationships among teacher effectiveness, teacher empathy and emotional intelligence

As demonstrated in Table 6, the chi-square/df ratio (1.29), RMSEA (.06), GFI (.1.00) and CFI (.93), all lie within the acceptable fit thresholds which proves that the proposed model had an acceptable fit with the empirical data.

Table 6

Goodness of Fit Indices

	X2/df	GFI	CFI	RMSEA
Acceptable fit	<3	>.90	>.90	<.08
Model	1.29	1.00	.93	.06

Discussion

Considering the association between empathy and effectiveness, analysis of the results revealed that there is a positive and significant correlation between these two variables ($r=.31$, $p<.05$). Moreover, results of SEM showed that effectiveness is predicted by empathy ($\beta=.25$, $p<.05$). This direct positive significant path from teacher empathy to teacher effectiveness is in agreement with previous studies (Bjekić, 2000; Gupta & Mehta, 2018; Stojiljković et al., 2011). For instance, Gupta and Mehta (2018) conducted a research study in India and explored the effect of empathy on effectiveness using regression analysis. Results revealed that empathy positively and significantly predicted different components of teacher effectiveness. The result is also in line with another study conducted by Arghode (2012) in which it was revealed that teachers' empathy toward their students influenced student-teacher interaction which could be directly impact instructional effectiveness. In addition, Bjekic (2000) reported that teachers' level of empathy is one of the important teacher skills in enhancing effectiveness through making an atmosphere in the classroom where learners feel happy, free, adopted, involved, and respected. Arghode (2012) also conducted a study on the influence of teachers' empathy on student-teacher interaction which could be related to instructional effectiveness. This is also supported by Klassen, et al. (2018) who introduce empathy as an effective attribute through conducting a meta-analysis of the teacher effectiveness-related studies.

Regarding the association between EI and effectiveness, analysis of the results revealed that there is a positive and significant correlation between these two variables ($r=.32$, $p<.05$). Besides, results of SEM indicated that effectiveness is predicted by EI ($\beta=.27$, $p<.05$). Previous studies affirm this direct significant path from EI to teacher effectiveness (Adeyemo & Chukwudi, 2014; Sekreter, 2019; Singh, 2017). For example, Adeyemo and Chukwudi's (2014) study revealed that emotional intelligence and teacher efficacy had a predictive influence on teacher effectiveness. Considering the nature of EI, this should be expected. Besides, the results of another study done by Singh (2017) which concentrated on the impact of emotional intelligence characteristics as predictors of teachers' success and effectiveness, corroborates with the present results. Singh (2017) reported that there exists a significant association between EI and teachers' effectiveness. Therefore, an effective educator is emotionally intelligent. The results illustrated that if emotional intelligence is enhanced in educators, they would be more effective in handling their responsibility and therefore directly improve their teaching efficiency and effectiveness. Hence, the findings as found in the current study showed that there is an urgent need for the

development of intervention programs aimed at enhancing the teacher educators' EI. Steins and Book (2000) conducted a research study to explore the relationship between EQ and teacher effectiveness. They observed that the groups selected as 'most effective' by self-reports, had the highest EQ-i scores for confidence and self-actualization. In the same vein, a recent study conducted by Yadav (2016) has found a significant positive relationship between these two variables in a secondary school context.

These findings related to the relationship between EQ and Empathy are in line with studies conducted by Okun, Shepard, and Eisenberg (2000), Austin, Evans, Goldwater and Potter (2005), Badaea, and Pana (2010), and Rastegar, Razmi, and Mohammadi Ghavam (2011). For example, Rastegar et al. (2011) reported that there was a positive significant correlation between EI and emotional empathy. Besides, Bar-On (2001) mentioned that emotional intelligence develops over time and can be improved through training, programming, and therapy (Ghanizadeh & Moafian, 2009). Accordingly, in light of the obtained findings and by considering Bar-On's perspectives (2006), it can be justified that exploiting and developing courses for EFL instructors concentrating on skills related with emotional intelligence can be contributory. Hence, it is very helpful to EFL instructors to know that there is a positive significant relationship between emotional intelligence and emotional empathy, since each of them can be developed under particular training and practice. In other words, development of emotional intelligence would lead to the enhancement of emotional empathy and vice versa.

Conclusion

Different researchers worked on the relationship between emotional intelligence and empathy. One of the early studies conducted by Cain and Carnellor (2008) focused on the effect of roots of empathy program on teachers' social emotional intelligences and professional learning of the teachers. Results of their study revealed that the roots of empathy program were positively and significantly related to the development of social emotional intelligences. Similarly, Stanley and Bhuvanewari (2016) found positive and significant relationships between the two.

It can be implied from the findings that teachers can be effective if they have a high level of empathy and EI. Therefore, teacher education programs should focus on the development of intervention programs aimed at enhancing the teacher educators' EI and empathy which in turn can help for this development in teachers. Professional identity and empathy have a strong relationship and also there is a specifically important relationship between professional efficacy and empathy (Goroshit & Hen, 2015). As far as social functioning and establishment of the relationships is concerned it has been noted that the two concepts of empathy and emotional intelligence have a contributing effect (Ioannidou & Konstantikaki, 2008). While emotional intelligence concerns the emotions and feelings of individuals, its development can be a suitable strategy for growing emotions as well as establishing empathetic connections with people (Hajibabae, Farahani, Ameri, Salehi, & Hosseini, 2018). The results of the present study revealed that these factors are essential in the improvement of teachers' effectiveness. While literature supports the possibility in training teachers to improve their emotional intelligence (Hen & Sharabi-Nov, 2014), this can in turn improve empathy and effectiveness among teachers.

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Conflict of interests

The authors declare that they have no conflict of interest.

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