

A Study of Teachers Emotional Intelligence and Self Efficacy in Technical Institutes

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Abstract

This paper studies the relationship between teacher's emotional intelligence (EI) and self efficacy (SE) and whether the relationship is moderated by gender, age and teaching experience. Factors of emotional intelligence and teacher effectiveness were investigated to determine their levels in teachers teaching in Engineering and Management institutes of Haryana. 86 teachers were part of the study sample. They were administered the Assessing Emotions Scale (AES) (Schutte et al., 1998) and the Teacher Self efficacy scale. (TES).

It was found that there was a significant positive relationship between teacher's emotional intelligence and their self efficacy. Teachers who showed higher levels of emotional intelligence also had higher levels of self efficacy. Female teachers showed higher levels of emotional intelligence than male teachers. But no significant difference was found with respect to age and teaching experience. There was no significant mean difference in TES as per gender, age and teaching experience. Also, the moderating variables such as age, gender and teaching experience showed no interaction effect on the relationship between emotional intelligence and teacher self-efficacy.

Keywords: Emotional intelligence, teacher effectiveness, faculty members, technical institutes.

1. Introduction

Teacher self-efficacy is the belief that teachers have about their capabilities and skills as educators. For efficient teaching and good learning it is one of the crucial characteristic in academia. A good teacher needs an understanding of individual and group behavior to create a learning environment that could encourage positive social interaction, active engagement and motivation to learn (Jha&Singh,

2012). As per Bandura theory of self Efficacy (Bandura, 1977, teacher's efficacy could be divided into two components: *efficacy expectation and outcome expectancy*. Efficacy expectation is teacher's belief about their own knowledge and skills to execute behavior required for desired outcome and outcome expectancy is teacher's belief about the impact that specific teaching actions have on students. Both the components are equally required for an effective teacher. Teachers with high level of self efficacy believe that they can influence the student's outcomes but a teacher with low level of self efficacy believes that they have little influence over student's accomplishments (Sridhar Badiel, 2008). Two dimensions of the construct are *general teacher efficacy (GTE) and personal teacher efficacy (PTE)* (Gibson and Dembo.1984) General teacher efficacy means teachers' beliefs in the ability of teachers in general to influence student outcomes (teachers can make a difference); personal teacher efficacy means teachers' beliefs about their own ability to affect student outcome. A teacher brings his subject expertise and knowledge of particular teaching methods for efficient teaching. But another important aspect involved in the development of a successful teacher is Emotional Intelligence.

Emotional intelligence as defined by Salovey &Mayer is "the ability to monitor one's own and others' feelings and emotions, to discriminate among them and to use this information to guide one's thinking and actions" (Salovey & Mayer, 1990, p.189). Bar-on(2004) considered EI as an interrelationship between how well we understand ourselves(i.e. our strengths and weaknesses) in

order to express ourselves and others (i.e. aware of their emotions, feelings and needs) in order to have a constructive mutually satisfying relationship.

This paper studies the relationship between emotional intelligence and teachers self efficacy in Engineering and Management institutes of Haryana. The effect of moderating variables like gender, age & years of teaching experience on the relationship between teacher's emotional intelligence and self efficacy are also studied.

2. Literature Review

2.1 Gender, age, experience, teacher emotional intelligence and teacher self efficacy

A series of studies have showed that EI was positively correlated with age and experience and could be enhanced in adulthood in different job situations. (Salovey and Mayer, 1990), Goleman (1996), Mayer et al. (2000) Srivastava and Bharamanaikar (2004). Also, Kafetsios (2004) had concluded with the same results after studying 239 adults varying between 19-66 years, that older participants had higher level of emotional intelligence EI. Van Rooy, Alonso and Viswesvaran (2005) administered a scale to 275 participants and found that females have higher emotional intelligence than male and increases with experience.

Tyagi (2004) conducted a study among secondary school teachers and found emotional intelligence to be low and independent of age, which was contradictory to the previous studies. Thingujam and Ram (2000) administered the Assessing Emotions Scale (AES) (Schutte et al., 1998) in Indian context and found that women scored higher on emotional scale than male.

Teachers gender & age has no effect on teacher self-efficacy, but effects were observed for years of teaching experience. (Nikoopour et al. (2012) ; Chan, 2004; Rastegar et al., 2009; Moafian et al., 2009; Gurol et al., 2010)

2.2 Emotional intelligence and teacher self-efficacy

Goleman (1995, 2005) has suggested that teachers become more effective when they are aware of the influence of emotional intelligence on learning and behavior. Penrose (2007) and Walter (2013) found

that there is direct and positive relationship between EI and TES which means that assisting teachers in developing their Emotional intelligence further may enhance their sense of efficacy. Sutton and Wheatley (2003) reported that "substantial variation in teacher efficacy may result in part from variance in teacher's emotions". Gurol, Ozercan, and Yalçın (2010) found a positive significant correlation between EI and self-efficacy of English teachers and pre-service teachers; however, no significant differences among teachers with different genders, ages and teaching experiences were reported (as cited by Nikoopour et al. (2012))

3. OBJECTIVE

The objective of the paper is

- To determine the relationship between teachers emotional intelligence and self efficacy in Engineering and Management institutes of Haryana.
- To determine the effect of age, gender and teaching experience on Emotional Intelligence and Teachers self efficacy.
- To determine the moderating effects of age, gender and teaching experience on the association between teachers emotional intelligence and self efficacy.

4. Hypotheses

- There will be significant positive relationship between teacher's emotional intelligence and self-efficacy.
- There will be significant mean difference in EI as per gender. But no significant difference in self efficacy.
- There will be a significant positive relationship between age and emotional intelligence, teaching experience and emotional intelligence, teaching experience and teacher self efficacy.
- There will be no significant positive relationship between age and teacher self efficacy
- The relationship between emotional intelligence and self efficacy would be moderated by gender, age, years of teaching experience.

5. Method

The study used standardized tools to examine the association of predictor variable emotional intelligence with the criterion variable self efficacy in the case of faculty members. The population of reference for this research consisted of faculty members working in private Engineering and Management colleges in Haryana, India. The sample taken for the study was 100, out of which 88 faculty members participated in the survey.

6. Tools Used

The questionnaire booklet consisted of two scales: Assessing Emotions scale (AES) or Self Report Emotional Intelligence test (Schutte et al., 1998) and Teacher Efficacy scale. (Gibson & Dembo, 1984).

6.1 Assessing emotions scale

A 33-item self-report questionnaire that assesses various aspects of emotional intelligence. It is a five-point scale (1 = strongly disagree to 5 = strongly agree). Total scale scores are calculated by reverse coding items 5, 28 and 33, and then summing all items. Scores can range from 33 to 165, with higher scores indicating more characteristic emotional intelligence. According to Schutte et al. (1998), SREIT has good predictive and discriminant validity, and high results of reliability, with an alpha Cronbach value (α) of 0.90.

6.2 The Teacher Efficacy Scale

Gibson & Demo (1984) have developed teacher efficacy scales, based on Bandura's scale of self-efficacy, consisting of two sub-scales of general teaching efficacy and personal teaching efficacy. The scale had a good internal consistency ($\alpha=0.79$) (Gibson & Dembo, 1984). For teacher survey 20 items from the total 30 items in Gibson and Dembo's original scale were retained. Responses to these items are taken on a five point scale. (1=strongly disagree to 5=strongly agree). Total scale scores are calculated by reverse coding items 3, 4,5,6,7,8,11,12,15,20 and then summing all items. Scores can range from 20 to 100 with higher scores indicating higher teacher efficacy.

7. Results and Data analyses

For emotional intelligence the highest score found was 151 out of 165. For personal teaching efficacy, the highest score found was 84 out of 100.

7.1 Teachers Emotional Intelligence and Self-Efficacy

There was a significant positive relationship ($t=2.24$, $p<.05$) between teachers emotional intelligence and self-efficacy. The coefficient of determination R was 0.05 which indicates that only 5% of the variation in teacher's self-efficacy can be explained by teacher's emotional intelligence, indicated in table 5 of annexure. Hence our hypothesis no.1 is accepted.

In order to compare the teachers emotional intelligence and self- efficacy scores for males and female's two independent sample t-tests were conducted. There was a significant difference in teachers emotional intelligence scores for males ($n=24$, $M=126.1$, $SD=11.4$) and females ($n=64$, $M=132.3$, $SD=10.03$) and was found that female's have higher level of emotional intelligence than male. However there was no significant difference in teachers self-efficacy scores for males ($M=68.4$, $SD=6.2$) and females ($M=69.9$, $SD=5.77$) as indicated in table 2 of annexure. Hence our hypothesis no.2 is accepted.

The differences in Emotional Intelligence and teacher efficacy scores for four groups of age and six groups of teaching experience were examined by analysis of variance (ANOVA). As per analysis no significant difference was found in teacher's emotional intelligence and self-efficacy on the basis of different age groups and teaching experience as indicated in table 3 & table 4 of annexure. Hence our hypothesis no.3 is rejected and hypothesis no.4 is accepted.

7.2 Impact of moderating variables

Moderating variables are the variables that affect the direction or strength of the relation between an independent or predictor variable and a dependent or criterion variable. To measure the interaction effect of age, gender and teaching experience on emotional intelligence (predictor variable) and self-efficacy (criterion variable) regression analyses had been conducted. But before that, for the nominal variables with more than two levels, dummy variables have

been created to take the place of original nominal variables. In this case for age and teaching experience dummy variables i.e. for age of different groups A1_1,A1_2,A1_3,A1_4 & for experience exp1,exp2,exp3,exp4,exp5,exp6 have been created for further analyses. Four regression analyses was used to examine possible moderation effects. The results showed no interaction effect of any of the moderating variables (gender, age & length of teaching experience) on the relationship between teachers EI and self-efficacy. In each of the four regressions there was no significant moderation effect found. Hence our hypothesis no.5 is rejected. In each case emotional intelligence was a significant predictor of personal teaching efficacy, with significant beta values (range between 0.22 and 0.27 and $p < .05$), indicated in table 6, 7 & 8 of annexure. The check of multicollinearity among independent variables was also not violated according to the test of Tolerance statistics.

8. Discussion

This study investigated the relationship between teachers emotional intelligence and self efficacy and the extent to which this relationship is moderated by gender, age and teaching experience. It was hypothesized that there would be a significant positive association between teachers emotional intelligence and self efficacy.

Results of this study support the first hypothesis. Emotional intelligence was found to be positively related to teacher self efficacy. These results are supported by a number of research studies by Goleman (1995, 2005); Walter (2013); Penrose (2007); Gurol, Ozercan, and Yalçın (2010). Emotional intelligence score is high for females than males which are in continuity with the different studies conducted by Thingujam and Ram (2000); Van Rooy, Alonso and Viswesvaran (2005). No significant differences in EI and self efficacy among teachers with different genders, ages and teaching experiences were reported which confirm to the results of Maharana(2013). However, the hypotheses about moderation of the relationship by the variables of age and years of teaching experience were not supported. None of the predicted moderators had a significant impact on the relationship between emotional intelligence and teacher self efficacy. Teacher's Emotional intelligence has a relationship with self efficacy independent of gender, age and

teaching experience which confirm to the results of Penrose (2007).

This study has demonstrated that a teacher's level of emotional intelligence is related to their teaching efficacy, independent of their gender, age and years of experience. These findings can be helpful in conducting faculty development programs to develop the skills of teachers in emotional intelligence.

9. Implications

Researches have demonstrated that student outcome is associated with teacher self efficacy. We have studied whether teacher's self- efficacy is influenced by their level of emotional intelligence. Current results show that the teachers with higher level of emotional intelligence believe more on their self-efficacy. More important is that this relationship exists irrespective of the effects of gender, age and teaching experience.

Assisting teachers through faculty development programmes in developing their emotional intelligence may enhance their sense of efficacy. As self efficacy of teachers is associated with student improvements, enhancing teachers' emotional intelligence could be a means of achieving improved student outcomes.

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Annexure

Table1 Correlations

		EI	TES
EI	Pearson Correlation	1	.235*
	Sig. (2-tailed)		.027
	N	88	88
TES	Pearson Correlation	.235*	1
	Sig. (2-tailed)	.027	
	N	88	88

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

**Table2.T-Test
Group Statistics**

	GEN	N	Mean	Std. Deviation	Std. Error Mean
EI	1	24	1.2617E2	11.45755	2.33876
	2	64	1.3230E2	10.03119	1.25390
TES	1	24	68.4583	6.20644	1.26688
	2	64	69.9062	5.77548	.72193

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
EI	Equal variances assumed	.047	.830	-2.455	86	.016	-6.13021	2.49692	-11.09391	-1.16650
	Equal variances not assumed			-2.310	37.006	.027	-6.13021	2.65369	-11.50706	-.75335
TES	Equal variances assumed	.001	.982	-1.026	86	.308	-1.44792	1.41073	-4.25235	1.35652
	Equal variances not assumed			-.993	38.867	.327	-1.44792	1.45814	-4.39762	1.50178

Table3.Oneway One way EI TES by age

		ANOVA				
		Sum of Squares	Df	Mean Square	F	Sig.
EI	Between Groups	64.921	3	21.640	.183	.908
	Within Groups	9949.704	84	118.449		
	Total	10014.625	87			
TES	Between Groups	123.850	3	41.283	1.196	.316
	Within Groups	2900.138	84	34.525		
	Total	3023.989	87			

Table4.Oneway ONEWAY EI TES BY Exp

		ANOVA				
		Sum of Squares	Df	Mean Square	F	Sig.
EI	Between Groups	335.599	4	83.900	.719	.581
	Within Groups	9679.026	83	116.615		
	Total	10014.625	87			
TES	Between Groups	167.690	4	41.923	1.218	.309
	Within Groups	2856.298	83	34.413		
	Total	3023.989	87			

Table5.Regression

Model Summary

Model	R	R Square	Adjusted Square	R	Std. Error of the Estimate
1	.235 ^a	.055	.044		5.76358

a. Predictors: (Constant), EI

ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	167.167	1	167.167	5.032	.027 ^a
	Residual	2856.822	86	33.219		
	Total	3023.989	87			

a. Predictors: (Constant), EI

b. Dependent Variable: TES

Table6.

Model Summary

Model	R	R Square	Adjusted Square	R	Std. Error of the Estimate
1	.241 ^a	.058	.036		5.78923

a. Predictors: (Constant), GEN, EI

ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	175.202	2	87.601	2.614	.079 ^a
	Residual	2848.786	85	33.515		
	Total	3023.989	87			

a. Predictors: (Constant), GEN, EI

b. Dependent Variable: TES

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	52.402	7.597		6.898	.000
	EI	.122	.060	.221	2.034	.045
	GEN	.702	1.433	.053	.490	.626

a. Dependent Variable: TES

Table7.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.310 ^a	.096	.053	5.73830

a. Predictors: (Constant), A1_4, EI, A1_3, A1_2

ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	290.959	4	72.740	2.209	.075 ^a
	Residual	2733.029	83	32.928		
	Total	3023.989	87			

a. Predictors: (Constant), A1_4, EI, A1_3, A1_2

b. Dependent Variable: TES

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	53.289	7.603		7.009	.000
	EI	.130	.058	.236	2.253	.027
	A1_2	-1.918	1.279	-.162	-1.500	.137
	A1_3	.723	2.718	.029	.266	.791
	A1_4	3.558	4.154	.090	.856	.394

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	53.289	7.603		7.009	.000
	EI	.130	.058	.236	2.253	.027
	A1_2	-1.918	1.279	-.162	-1.500	.137
	A1_3	.723	2.718	.029	.266	.791
	A1_4	3.558	4.154	.090	.856	.394

a. Dependent Variable: TES

Table8.
Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.355 ^a	.126	.073	5.67627

a. Predictors: (Constant), ex6, ex5, ex3, EI, ex2

ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	381.948	5	76.390	2.371	.046 ^a
	Residual	2642.040	82	32.220		
	Total	3023.989	87			

a. Predictors: (Constant), ex6, ex5, ex3, EI, ex2

b. Dependent Variable: TES

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	50.339	7.523		6.691	.000
	EI	.149	.058	.271	2.579	.012
	ex2	-1.619	1.353	-.131	-1.196	.235
	ex3	.725	1.853	.042	.391	.697
	ex5	8.468	5.740	.153	1.475	.144
	ex6	8.253	5.786	.149	1.426	.158

a. Dependent Variable: TES