Research Papers

A Study of Teacher Influence in the Classes of Primary School Teachers *vis-a-vis* Emotional Intelligence and Demographic Variables

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ABSTRACT

Effects of Emotional Intelligence (EI) and demographic variables have been examined on teacher influence. I/D ratios of teachers as per Flanders (1970) were treated as indices of teacher influence in classroom. Study revealed that level of EI of teachers affects teacher influence (I/D ratio) significantly. Effects of demographic variables like: training, stream (art and science) and sex have been found to be insignificant. Type of school (government and private) is observed to affect teacher influence significantly and observed to moderate association between EI of teachers and teachers' I/D ratios. Due to significant effect of EI on teacher influence (I/D ratio or Indirectness/Directness) of primary school teachers, it is likely to be concluded that teacher high on emotional intelligence will exert "Indirect Teacher Influence" while teaching.Introduction

1. Introduction

There is a paucity of studies related to emotional intelligence and teaching behaviour. But on the basis of findings of studies related to Emotional Intelligence (EI), it is likely to say that EI seems important for teaching profession. Review of researched areas related to EI brings forth that EI has been significant predictor of social quality relationship, interpersonal relationship, workplace success, motivation, teaching self-efficacy, stress and burn out, and communication effectiveness. If findings of studies conducted in relation to foregoing mentioned criterion variables are reviewed, it appears that EI is likely to be important for teaching profession.

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Findings of studies which explored that EI is strongly related to and significant predictor of quality of social relationship (Brackett, Mayer and Warner, 2004; Eisenberg, Fabes, Guthrie and Rieser, 2000; Lopes, Salovey and Straus, 2002) signify the importance of Emotional intelligence in classroom teaching. Teaching bears social orientation and takes place in socio-cultural context of classroom. As such, teachers can exercise their EI dealing with students. The way teacher relates himself or herself to students; it decides the conduciveness of social-emotional climate of classroom (Flanders, 1970).

Studies which have been conducted to find out association between EI and self-efficacy as well as EI and communication effectiveness, revealed association between EI and teaching self-efficacy and between EI and communication effectiveness. Significant positive association between EI and teaching self-efficacy reveals that EI play important role in possessing positive belief about teaching capabilities. Teacher higher in EI will tend to have positive belief about his teaching capabilities (self-efficacy), because, teacher high in EI has awareness about his strength and weakness (Penrose, Perry and Ball, 2007). EI is significant predictor of teaching self-efficacy and teaching self-efficacy is one of the most important variables consistently related to positive teaching and student learning outcome (Ashton and Webb, 1986; Enochs, 1995; Gibson and Dembo, 1984; Henson, Kogan and Vacha-Haase, 2001, Podell and Soodak, 1993; Tschannen-Moran, 1998; Woolfolk and Hoy, 1990). Significant association between EI and teaching self-efficacy appears to underscore validity of theory of EI and its utility for teachers.

Communication is culmination of all EI abilities (Mayer, Salovey and Caruso, 2004). Emotional intelligence abilities like ability to perceive emotion, ability to use emotion to guide action, ability to understand emotion and ability of reflective management of emotion underlie communication effectiveness (Mayer, Salovey and Caruso, 2004). Main advocators of emotional intelligence theory argue that emotional intelligence lead to improve communication effectiveness (Mayer, Salovey and Caruso, 2004). To be emotionally and socially intelligent is to effectively understand and express oneself, to understand and relate well with others, and to successfully cope with daily demands, challenges, and pressures (Bar-On, 2002). The social awareness of EI has directly relationship with people and groups precisely and communication such as the

empathic individual can read emotional currents, picking up on nonverbal cues such as tone or facial expression (Jorfi, Yaccob and Shah, 2011). The high EI individual, most centrally, can better perceive emotions, use them in thought, understand their meanings, and manage emotions better than others and tends to be more open and agreeable (Mayer, Salovey and Caruso, 2004). EI abilities decide communication effectiveness (Mayer, Salovey and Caruso, 2004), as such, EI seems important in teaching profession. EI appears to be important for teaching profession. But, it seems that individuals high on EI, is likely to use high-level capabilities to read and manage the emotions of others to manipulate their behaviour to suit that individual's interest. Dispositional tendency to emotionally manipulative behaviour immediately brings to mind the trait of Machiavellianism (Mach). For this potential manipulative/dark side of EI was examined by Austin, Farrelly and Black (2007). Austin, Farrelly, Black and Moore (2007) examined association between trait Machiavellianism (Mach) with self-report and performance EI. They found that Mach tended to correlate negatively with self-report and performance EI. Emotional manipulation was positively correlated with Mach but unrelated to EI. So, it seems erroneous to infer that individual high on EI are likely to be manipulative in interpersonal relationship.

EI is found to be strong predictor of success at work place (Cherniss, Extein, Goleman and Weissberg, 2006; Van Rooy and Viswesvaran, 2004), replication of studies in Indian setting indicate the cross-cultural validity of EI as a predictor of success at work place (Bedi, 1999; Mathur, 2000; Pradhan and Bano, 2000; Singh, 1998). These studies indicate that person high in EI can translate his potential and capabilities at work place success. EI has been found to be predictor of success at work place in Indian setting, too. It indicates the likelihood of EI as significant predictor of teaching behaviour in the Indian context, too.

2. Rationale of the Study

In a good number of studies, attempts have been made to study incremental validity of EI construct in explaining variation in criterion. Most research on the incremental validity of EI has been conducted by examining correlations with criteria concerning aspects of a successful life. There have been encouraging results regarding the incremental validity of EI explaining quality of social interactions and relations (Lopes, Brackett, Nezlek, Schutz, Sellin

and Salovey, 2004; Lopes, Salovey and Strauss, 2002), illegal drug and alcohol use, deviant behaviour, and poor relations with friends (Brackett, Mayer and Warner, 2004), social deviance and alcohol use (Brackett and Mayer, 2003), different "life skills" (Bastian, Burns and Nettelbeck, 2005), life satisfaction, and feelings of powerlessness (Law, Wong and Song, 2004; Wong and Law, 2002).

Nevertheless, it is striking that most investigators used criteria concerning life outcomes and not achievement criteria. Regarding EI as an ability that is said to predict professional success and success in life better than intelligence (Watkin, 2000), EI should be especially predictive of those criteria. The achievement criteria investigated to date in the context of the incremental validity of EI are professional success, cognitive performance, and academic achievement. In this study, attempt has been made to study the role of EI in teaching behaviour of primary school teachers.

Dynamic interchange between the mind of the teacher and individual learner is kernel of effective pedagogy. If teacher succeeds in bringing about the dynamic interchange, it might be attributed to his EI (Ergur, 2009). Dynamic interchange between the mind of teacher and his students is contingent on socio-emotional climate of the classroom (Pandey, 1981). Here, level of EI is likely to be important for teachers (Ergur, 2009). This study is to be concentrated around primary education because the first exposure of child in terms of learning and developing capabilities to relate to the external world starts at school. For the first time in their lives, children feel the need to emotionally react differently to a whole set of new relationships coming as stimuli from the environment, hitherto alien to them. The transition from dealing with informal to formal relationships along with the need to balance both, together, creates tremendous role strains in the children, thereby disturbing their hitherto undifferentiated emotional and social world.

Against this backdrop, it seems plausible that EI appears to be important for persons inducted in teaching profession. Emotionally intelligent teachers are likely to display diversified communication pattern in classroom teaching. Emotionally intelligent teachers are likely to be active in their orientation towards teaching profession. There is likelihood of conducive social-emotional climate and enriched cognitive organisation in the classes of emotionally intelligent teachers.

3. Variables of the Study

3.1. Explanatory variables

In this study emotional intelligence and demographic variables like: school type, training, sex, and stream of teachers were treated as explanatory variables for two-way ANOVA.

3.2. Criterion variable

In this study teacher influence (I/D ratio) is treated as criterion variable for two-way ANOVA.

3.3. Demographic variables

In this study, school type, training and sex of teachers have been treated as demographic variables.

4. Objectives of the Study

The major objectives of the study are:

1. To find out the effect of level of EI by sex on teacher influence in the classroom.
2. To find out the effect of level of EI by training on teacher influence in the classroom.
3. To find out the effect of level of EI by stream (art and science) on teacher influence in the classroom.
4. To find out the effect of level of EI by school type (government and private) on teacher influence in the classroom.

5. Null-Hypotheses

This study purported to test the following null hypotheses (at 0.05 level of significance):

H_{01}: There is no significant difference between the influence exerted in the classroom by male and female teachers having different level of EI.

H_{02}: There is no significant difference between the influence exerted in the classroom by trained and non-trained teachers having different level of EI.

H_{03}: There is no significant difference between the influence exerted in the classroom by the science and art background teachers having different level of EI.

H_{04}: There is no significant difference between the influence exerted in the classroom by government and private school teachers having different level of emotional intelligence.

6. Operational Definitions of the Term Used

6.1. Teaching Behaviour

In this teaching behaviour is defined as it is measured by Flanders Interaction Analysis category System (FIACs) as illustrated in Table 1.

6.2. Emotional intelligence

Emotional intelligence is the ability of an individual to appropriately and successfully respond to a vast variety of stimuli being elicited from the inner self and immediate environment. Emotional intelligence constitutes three psychological dimensions–emotional sensitivity, emotional maturity and emotional competency which motivate an individual to recognise truthfully interpret honestly and handle tactfully the dynamics of human behaviour (Singh, 2002).

Table 1
Flanders Analysis Category System.

		Categories
(a)	**Teacher Talk**	
	Indirect Influence	1. Accepts feelings
		2. Praises or encourages
		3. Accepts or uses pupil ideas
		4. Asks questions
	Direct Influence	5. Lecturing
		6. Giving Directions
		7. Criticising or justifying authority.
(b)	**Pupil Talk**	
	Response	8. Pupil talk response
	Initiation	9. Pupil talk initiation
(c)	*Silence/Confusion*	10. Silence or confusion

(Flanders, 1970)

Emotional intelligence abilities contained by foregoing three psychological dimensions are given below:

6.2.1 Emotional competency

Emotional intelligence abilities which constitute this competency are:

(a) Tackling emotional upsets
(b) High self-esteem

(c) Tactful response to emotional stimuli
(d) Handling egoism

6.2.2 Emotional Maturity

Emotional intelligence abilities which constitute this competency are:
(a) Self-awareness
(b) Developing others
(c) Delaying gratification
(d) Adaptability and flexibility

6.2.3 Emotional Sensitivity

Emotional intelligence abilities which constitute this competency are:
(a) Understanding threshold of emotional arousal
(b) Empathy
(c) Improving inter-personal relations
(d) Communicability of emotions

6.3. Indirectness and Directness

As per Table 1, Indirectness implies those teacher's behaviours that expands students' freedom of action in the classroom. In the context of Flanders Interaction Analysis Category System (FIACS), it is represented by teacher statements accepting or using student's ideas or opinion, praising or encouraging students' ideas or behaviours, clarifying and accepting feelings of the pupils and asking diversifies questions.

As per Table 1, Directness refers those teacher's behaviours that restrict students' freedom of action in the classroom. These teacher behaviours are represented in FIACS by lecturing, giving directions or commands, and criticising students' ideas or behaviours (Flanders, 1970).

6.3.1 Teacher Influence

In this study, I/D (Indirectness/Directness) ratio is used as index of teacher influence. Formula to compute this ratio is:

$$Indirectness(I/D) = \frac{(Categories\ 1+2+3+4)}{(Categories\ 5+6+7)} \times 100$$

6.4. School type

School type refers government run schools and private schools. Government school further refers Central Schools run by Central

Government and Primary Schools run by U.P. Government in Varanasi District. Private schools which are affiliated to CBSE are taken in this study.

6.5. Training

In this study, trained and non–trained have been defined on the basis of B. Ed. Course pursued by teachers teaching in these schools. Teachers who have pursued B. Ed. Course have been treated as trained teachers. Teachers who have not pursued B. Ed. Course have been treated as non-trained.

6.6. Stream

In this study, stream refers science and art at graduation level.

7. Methodology

Descriptive and explanatory research methods were employed in this study.

8. Population and Sampling Technique

All the primary school teachers of Government, Government aided and private schools in Varanasi district of Uttar Pradesh, constituted the population of the study; 'Multi-stage random sampling technique' was employed for selection of sample. 91 primary school teachers were randomly drawn for this study. Sample break-up has been given in Table 2.

Table 2
Sample Break Up: As per Demographic variables of study.

Sex		Stream		School type		Training	
Male	***Female***	***Science***	***Art***	***Government***	***Private***	***B.Ed.***	***Non B.Ed.***
36	55	35	56	40	51	61	30
91		91		91		91	

9. Tools used

1. **Flanders interaction analysis category system (FIACs)**
   Prior to observation of each sampled teacher by FIACs, the investigator received comprehensive training in observing teachers in classroom situations. The categories (FIACs) were memorised thoroughly. By the end of the training period the inter-observer reliability, using Scott's coefficient correlation was consistently near about 0.78. For establishing inter-

observer reliability, two observers observed the classroom by FIACS. Likewise, Scott's coefficient (r) for intra-observer reliability was computed, which was found to be 0.86. As pointed out by Ober and others (1971), an r of 0.60 is frequently established as an acceptable level (Pandey, 1981). Each of the teachers was observed for the 35 minutes.

After observing each sampled teachers, 10 × 10 matrices was compiled for each teacher separately. On the basis of respective 10 × 10 matrices, I/D ratio was computed for each sampled teachers.

2. **The EQ Test (developed by Prof. N. K. Chadha and Dr. Dalip Singh**) was adapted in the Hindi by the investigator for the measurement of EI of primary school teachers. Reliability of the scale has been established by 'test-retest method' and 'internal consistency method'. A sample comprising 100 primary school teachers were drawn randomly. The scale was administered twice a time interval of 15 days to the same sample. Pearson product moment correlation 'r' was computed between the two set of measures to indicate stability coefficient of the scale. The test-retest reliability was found to be 0.89. Cronbach-alpha coefficient (Index of internal consistency) was computed for each dimension of emotional intelligence-emotional sensitivity, emotional maturity and emotional competency, which found to be 0.76, 0.69 and 0.74 respectively.

Validity was determined with the help of the two techniques: (1) face validity and (2) empirical validity. Face validity is confirmed for the test as confirmed by the expert judgments. For empirical validity of the scale, it was correlated with the 'external criteria'. The external criteria taken in the present study was 'Bhattacharya Instrument of Emotional Intelligence' (BEIS-In).The validity was found to be 0.58, which indicates that the present test is valid.

10. Analysis, Results and Discussion

For studying teacher influence vis-à-vis EI of teachers, teachers were categorised in four groups.

10.1. Categorisation of teachers in different groups

On the basis of scores on 'Emotional Intelligence Test', teachers were classified into four groups; as per established norms of the test,

- Teachers who scored 285 or above were grouped as EHE (teachers having Extremely High Emotional Intelligence).

- Teachers who scored in the range of '250-284' were grouped as 'HE' (teachers having High Emotional Intelligence).
- Teachers who scored in the range of '200-249' were grouped as 'ME' (teachers having Moderate Emotional Intelligence).
- Teachers who scored in the range of '150-199' were grouped as 'LE' (teachers having Low Emotional Intelligence).

10.2. Analysis, results and discussion are being presented according to objectives of the study

Objective 1: To find out the effect of level of emotional intelligence by sex on teacher influence in the classroom.

Null-hypotheses which are framed in conjunction with this objective are:

HO1: There is no significant difference between the influence exerted in the classroom by male and female teachers having different level of emotional intelligence

Under this null-hypothesis, as follows sub-null-hypotheses were framed:

$H_{O1.1}$: Levels of EI will not significantly affect teacher influence (I/D ratio) in the classes of male and female teachers.

$H_{O1.2}$: Sex of teachers will not significantly affect teacher influence (I/D ratio) in their classes.

$H_{O1.3}$: Levels of EI by sex of teachers will not significantly affect teacher influence (I/D ratio) in their classes.

As per Table 3, F-value (9.48) for entire model is found to be significant at 0.05 significance level. It indicates that both explanatory variables (level of EI and sex) and their interaction caused significant variation in criterion variable (I/D ratio).Value of Eta2 (coefficient of determination) indicates effect size produced by foregoing explanatory variables and their interaction, which is obtained to be 44.4%, which refers that these variable and their interaction, account for 44.4% variance in I/D ratios of teachers.

Table 3
Summary of Analysis of Variance on I/D *vis-à-vis* Sex and Emotional Intelligence.

Source of Variance	SS	Df	MS	F	Significance	Eta squared
Corrected Model	11241.77	7	1605.97	9.48	0.05*	0.444
Emotional intelligence	9861.64	3	3287.23	19.40	0.05*	0.412

Sex	66.64	1	66.64	0.40		0.005
EI x Sex	1091.63	3	363.88	2.15		0.072
Error Variance	14067.14	83	169.48			

*Significant at 0.05 Significance level

F-value (19.40) is found to be significant at .05 significance level for df (3, 83) for main effect of EI. So, assertion made by null-hypothesis (HO1.1) that levels of EI will not significantly affect teacher influence in the classes of male and female teachers, is rejected. Alternatively, it refers that level of EI affect the I/D ratios of teachers significantly.

On the contrary to it, F-value (0.40) for main effect of sex on I/D is found to be not significant at .05 significance level for df (1, 83). It denotes that sex of teachers does not affect their I/D ratios significantly. So, null-hypothesis (HO1.2) was retained regarding its assertion that sex of teacher does not affect their I/D ratios significantly.

In addition to this, interaction effect of EI by Sex is not observed affecting I/D ratios of teachers significantly, because, F-value (2.15) for this is found to be not significant for df (3, 83). Hence, null-hypothesis (HO1.3) was retained regarding its assertion.

The fact, F-value for the interaction between the Sex by level of EI is not found significant, it indicates that the difference between the means of male and female teachers in the EHE, HE, ME and LE groups do not differ significantly from one another. With a not significant interaction effect between EI by Sex, it may be deduced that the main effect of sex i.e., the difference between the male and females, is independent of the effect of level of EI. Alternatively, it may be said that main effect due to level of EI i.e., significant difference among the mean I/D ratios for EHE, HE, ME and LE groups of teachers, is independent of the effect of sex.

As per Figure 1, it appears that mean I/D ratios of male and female primary school teachers are increasing when level of EI is observed to be increased. So, EI affects I/D ratios of teachers. On the basis of perusal of graph, it appears that male teachers have greater mean I/D ratios in three groups viz in EHE, ME and LE groups, but, this trend could not be maintained by male teachers in HE group where female teachers have greater mean I/D ratios than their counterparts. Here, it is likely to be deduced that though

interaction effect of both explanatory variables (EI by Sex) has been found insignificant, but interaction effect is perceptible for male teachers and interaction effect is found to moderate association between EI and I/D ratios of male teachers.

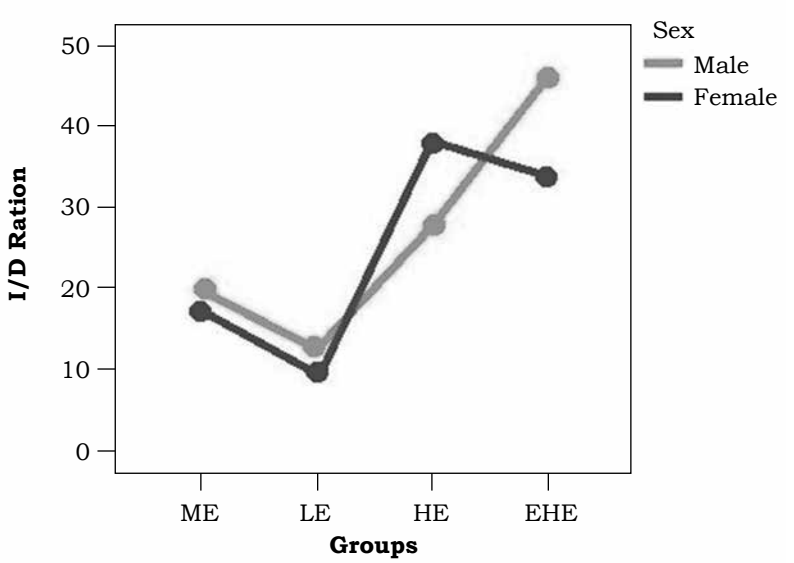

Fig 1: Graph of EI by Sex on I/D ratio

Eta^2 (coefficient of determination) for EI is 41.2 per cent indicates the effect size for EI, which refers that EI explains 41.2 per cent variance in the criterion variable (I/D ratio). On the contrary to it, sex explains only 0.5 per cent variance in I/D ratios of teachers as revealed by its Eta2. Interaction effect of EI by Sex as revealed by Eta2 explains only 7.2 per cent variance in I/D ratios of teachers.

10.3.Objective 2: To find out the effect of level of EI by training on teacher influence in the classroom

Null-hypotheses framed in conjunction with this objective.

$H_{02.}$: There is no significant difference between the influence exerted in the classroom by trained and non-trained teachers having different level of EI.

Under this null-hypothesis, as follows sub-null-hypotheses were framed:

$H_{02.1}$: Levels of EI will not significantly affect teacher influence (I/D ratio) in the classes of trained and non-trained teachers.

$H_{02.2}$: Training of teachers will not significantly affect teacher influence (I/D ratio) in their classes.

$H_{02.3}$: Levels of EI by training of teachers will not significantly affect teacher influence (I/D ratio) in their classes.

From Table 4, it is revealed that F-value (8.35) for entire model (effect produced by level of EI, effect produced by training and effect produced by interaction of level of EI x training) is found to be significant at 0.05 significance level for df (7, 83).

Table 4
Summary of Analysis of Variance on I/D *vis-à-vis* Training and EI.

Source of Variance	SS	df	MS	F	Significance	Eta squared
Corrected Model	10455.71	7	1493.67	8.35	0.05*	0.413
Emotional intelligence	7278.28	3	2426.09	13.56	0.05*	0.329
Training	17.95	1	17.95	0.10		0.001
EI x Training	345.82	3	115.27	0.64		0.023
Error Variance	14853.19	83	178.95			

*Significant at 0.05 Significance level

F-value (13.56) for effect of level of EI is found to be significant at 0.05 significance level for df (3, 83). It implies that differences in mean I/D ratios of teachers belonging to EHE, HE, ME and LE groups is likely to be produced by effect of their level of EI. So, null-hypothesis (H02.1) was rejected regarding assertion made by it.

F-value (0.10) associated with the main effect of training, is observed to be not significant at 0.05 significance level. It refers that training of primary school teachers does not affect their I/D ratios significantly. Hence, null-hypothesis (H02.2) was retained regarding assertion made by it.

F-value (0.64) associated with interaction effect of level of EI x training, is observed to be insignificant, which denotes acceptance of null-hypothesis (H02.3). Insignificant interaction effect implies that differences in mean I/D ratio of trained and not trained primary school teachers within each group i.e., EHE, HE, ME and LE are not found significant from one another. It further implies that effect produced in criterion variable (I/D ratio) by level of EI is independent from another dependent variable (training). Alternatively, effect produced in criterion variable (I/D ratio) by training is independent of level of EI of primary school teachers.

Insignificant interaction implies that training is not moderating the association between level of EI and I/D ratios of teachers. It is evident from Figure 2, that mean I/D ratios of trained and non-trained teachers are increasing, if level of EI is observed to increase in EHE, HE and ME groups. But due to insignificant interaction effect between these explanatory variables, it cannot be inferred that training is moderating the association between the level of EI and I/D ratios of teachers.

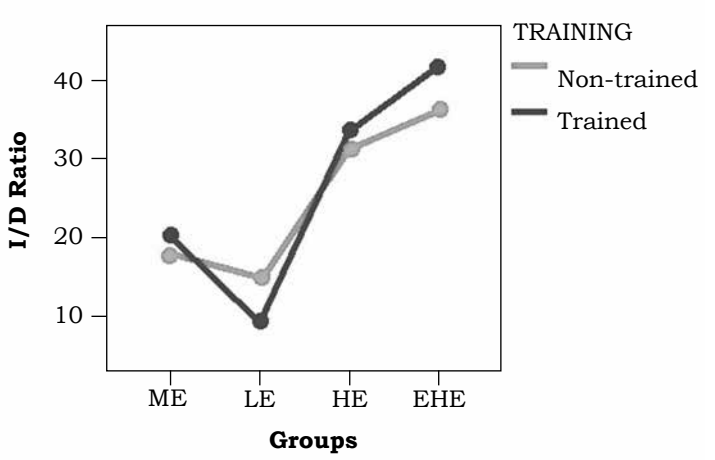

Fig 2: Graph of EI by training on I/D ratio

Except, LE group, in all groups EHE, HE and ME mean I/D ratios of trained teachers are found to be greater than mean I/D ratios of non-trained teachers, this signify interaction effect of level of EI by training of teachers, though it is not observed statistically significant. But, it is likely to be deduced that training of teachers is likely to moderate relation between EI and I/D ratios of teachers.

Eta^2 (coefficient of determination), for model is obtained to be 41.3 per cent. It refers that both variables and their interaction explain 41.3 per cent variance in criterion variable (I/D ratio). Eta2, for level of EI is obtained to be 32.9 per cent. It refers that level of EI explains 32.9 per cent variance in criterion variable. Training explains 0.1 per cent variance in criterion variable and interaction of level of EI x training explains 2.3 per cent variance in criterion variable (I/D ratio).

10.4. Objective 3: To find out the effect of level of EI by stream (art and science) on teacher influence in the classroom.

Null-hypotheses framed in conjunction with this objective.

H_{03}: There is no significant difference between the influence exerted in the classroom by the science and art background teachers having different level of emotional intelligence

Under this null-hypothesis, as follows sub-null-hypotheses were framed:

$H_{03.1}$: Levels of EI will not significantly affect teacher influence (I/D ratio) in the classes of science and art background teachers.

$H_{03.2}$: Stream (art or science) of teachers will not significantly affect teacher influence (I/D ratio) in their classes.

$H_{03.3}$: Levels of EI by stream of teachers will not significantly affect teacher influence (I/D ratio) in their classes.

As revealed from Table 5, F-value (8.60) for entire model is observed to be significant at 0.05 significance level for df (7, 83).

Table 5
Summary of Analysis of Variance on I/D vis-à-vis Stream and EI.

Source of Variance	SS	df	MS	F	Significance	Eta squared
Corrected Model	10640.36	7	1520.05	8.60	0.05*	0.420
Emotional intelligence	9540.31	3	3180.11	17.99	0.05*	0.394
Stream	217.02	1	217.02	1.23		0.015
EI x Stream	402.62	3	134.21	0.76		0.027
Error Variance	14668.00	83	176.73			

*Significant at 0.05 Significance level

F-value (17.99) for main effect of level of EI is found to be significant at 0.05 significance level for df (3, 83). So, null-hypothesis (H03.1) was rejected regarding its assertion.

F-value (1.23) is observed to be insignificant for df (1, 83), for the main effect of stream of teachers on their I/D ratios. It implies the acceptance of null-hypotheses (H03.2) regarding assertion made by it that stream of teachers does not affect their I/D ratios significantly.

F-value (0.76) for interaction effect of EI x Stream is observed to be not significant at 0.05 significance level for df (3, 83). It indicates the acceptance of null-hypotheses (H03.3). The insignificant interaction effect indicates that difference in mean I/D ratios of science stream teachers and art stream teachers for each group of teachers i.e., EHE, HE, ME and LE, do not differ significantly

from one another. In different way, it is likely to be said that the main effect of stream (Art and Science) i.e., the difference between the teachers having art background and teachers having science background, is independent of the effect of level of emotional intelligence. Alternatively, it may be said that main effect due to level of EI i.e., significant difference among the mean I/D ratios for EHE, HE, ME and LE groups of teachers, is independent of the effect of stream.

From Figure 3, it is evident that mean I/D ratios of teachers of science and art streams are increasing across all groups of teachers EHE, HE, ME and LE groups. It denotes clearly the effect of level of EI on I/D ratios of teachers. If graph is analysed from point of view of effect of stream, in all four groups, it is perceptible that in three groups viz EHE, HE and ME, mean of science stream teachers is higher than art stream teachers. But due to insignificant interaction effect between these two variables, it is likely to be inferred that demographic variable (Training) is not moderating the association between level of EI and I/D ratios of primary school teachers.

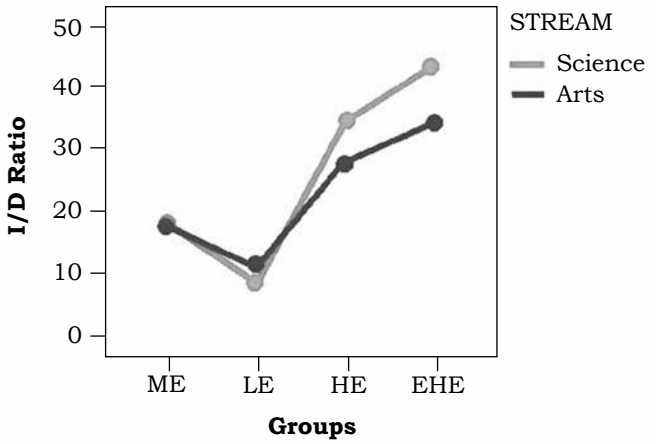

Fig 3: Graph of EI by Stream on I/D ratio

Eta^2 (coefficient of determination) for model is obtained to be 42 per cent, it refers that both explanatory variable and demographic variable and their interaction EI x Stream explain 42 per cent variance in criterion variable (I/D ratio). Emotional intelligence explains 39.4 per cent variance in criterion variable alone. Eta2as an indicator effect size produced by streams of teachers in criterion variable is obtained to be 1.5 per cent. Interaction of levels of EI by stream of teachers explained 2.7per cent variance in criterion variable.

10.5. Objective 4: To find out the effect of level of EI by school type (government and private) on teacher influence in the classroom

Null-hypotheses framed in conjunction with this objective.

H_{04}: There is no significant difference between the influence exerted in the classroom by government and private school teachers having different level of EI.

Under this null-hypothesis, as follows sub-null-hypotheses were framed:

$H_{04.1}$: Levels of EI will not significantly affect teacher influence (I/D ratio) in the classes of government school teachers and private school teachers.

$H_{04.2}$: School type of teachers will not significantly affect teacher influence (I/D ratio) in their classes.

$H_{04.3}$: Levels of EI by school type of teachers will not significantly affect teacher influence (I/D ratio) in their classes.

Table 6 depicted, all F-values turn out to be significant at 0.05 level of significance. F-value (10.60) for entire model is found to be significant at 0.05 significance for df (7, 83).

F-value (21.20) for main effect of level of EI in criterion variable (I/D ratio) is observed to be significant at 0.05 level of significance for df (3, 83). It denotes rejection of null-hypothesis (H04.1). It implies that differences in mean I/D ratios of teachers belonging to all four groups viz EHE, HE, ME and LE group which are observed to be significant, is likely to be due to effect produced by level of EI.

Table 6

Summary of Analysis of Variance on I/D *vis-à-vis* School type and EI.

Source of Variance	SS	Df	MS	F	Significance	Eta squared
Corrected Model	11943.88	7	1706.27	10.60	0.05*	0.472
Emotional intelligence	10241.43	3	3413.81	21.20	0.05*	0.434
School type	1120.06	2	560.03	3.48	0.05*	0.077
EI x School type	1213.91	2	606.96	3.77	0.05*	0.083
Error Variance	13365.02	83	161.02			

*Significant at 0.05 Significance level

F-value (3.48) for main effect produced by type of school of teachers is observed to be significant at 0.05 significance level. It implies that variation in the mean I/D ratios of primary school teachers is likely to get affected by school type (government and private). Hence, null-hypothesis **($H_{04.2}$)** was rejected regarding its assertion that type of school does not affect I/D ratios of teachers significantly.

F-value (3.77) for effect produced in criterion variable by interaction of level of EI x Type of schools is found to be significant at 0.05 significance level. It indicates rejection of null-hypothesis **($H_{04.3}$)**. It Implies that after partial out the effects produced independently from the dependent variables i.e., level of emotional intelligence and type of schools; it is observed that their interaction also produces significant effect in criterion variable (I/D ratio). Here, it is likely to be inferred that relationship between criterion variable and level of EI differs according to the type of school a second independent variable. So, type of school seems to be moderator variable. It is the variable that seems to moderate or influence the relationship between a level of EI and I/D ratio.

From Figure 4, one trend which is quite perceptible is effect of level of EI on I/D ratios of teachers of government and private type schools. Mean I/D ratios of teachers of government and private type schools are showing the tendency to increase, as, their level of EI is observed to be higher. If graph is analysed from point of view of interaction of level of EI by type of school, one noticeable trend confirms the interaction effect of both explanatory and demographic variables (level of EI and type of school). Though mean I/D ratios of teachers of each type school are increasing, but for teachers of private school in EHE group this trend stops to increase in value and is observed to be stagnant. On the contrary to it, mean ID ratios for teachers of government type school continue to show the tendency of increase in value across all groups. Hence, it is likely to be deduced that interaction effect of both variables tends to affect I/D ratios of teachers and interaction effect of both variable moderate the association between EI and I/D ratios of primary school teachers.

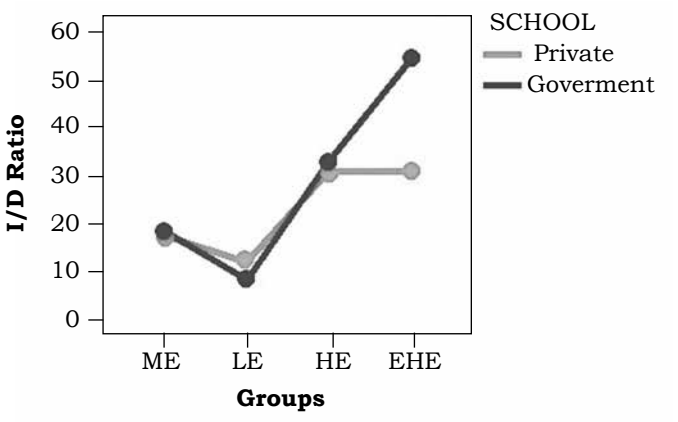

Fig 4: Graph of EI by School Type on I/D ratio

Eta2 (coefficient of determination) for model is obtained to be 47.2 per cent which implies that these variables and their interaction explain 47.2 per cent variance in criterion variable (I/D ratio). Level of EI explains 43.4 per cent variance in criterion variable, whereas, type of schools explained 7.7 per cent variance in criterion variable. Interaction of level of EI x type of school explained 8.3 per cent variance in criterion variable (I/D ratio).

11. Discussion

Foregoing interpretations of results based on tables, revealed that EI as explanatory variables affects I/D ratios significantly. The reasons why EI affected teacher influence (I/D ratios) significantly might be due to EI abilities required for "Indirectness (I/D ratio)". For indirect teacher influence, teacher is required:

- To recognise and read feelings and emotions of students (Category 1 of FIACs): Emotional intelligence abilities like ability to perceive emotions and ability to use emotions to facilitate thoughts and actions are essential for manifestation of teaching behaviours related to Category 1 of FIACs. These are lowest ability in the hierarchy of EI abilities (Mayer and Salovey, 1997). It implies that emotionally intelligent teachers can easily read emotions and feelings of students, and, can guide his further actions showing concern towards students.
- To praise and appreciate ideas and behaviour at cessation of pupil talk (initiation or responding) (Category 2 of FIACs): Ability to appreciate view-points and ideas of students are social

skill as model propounded by Goleman (1995). It implies that manifestation of this is dependent on EI of teachers.

- To integrate pupil ideas with classroom fabric (Category 3 of FIACs): Emotionally intelligent teacher appreciate view-points of students and further integrate students responding and initiation with classroom communication fabric (Ergur, 2009).
- To ask diversified questions (Category, 4 of FIACs): Emotionally intelligent teachers are observed to ask diversified questions, it implies narrow questions (low cognitive level questions) and thought provoking questions (high cognitive level questions) (Ergur, 2009).

These teaching behaviours must be very frequent in classroom interaction, for exerting 'Indirect teacher influence'. Emotional intelligence abilities underlie above mentioned teaching behaviours, so, these are likely to occur in classroom interaction pattern of emotionally intelligent teachers.

If teachers lacks Emotional intelligence abilities in that case likelihood of occurrence of teaching behaviours viz giving directions (Category 6 of FIACs) and criticising the ideas and behaviour of students and using extreme self-reference (Category 7 of FIACs), will tend to increase. These teaching behaviours indicate "Direct teacher influence" in classroom. Hence nature of teacher influence either Indirect or Direct is likely to be affected by level of EI of teachers. It implies that emotionally intelligent teachers will exert 'Indirect teacher influence'.

Person high on EI is efficient in social information processing or social cognition, they understand emotional and social behaviours of students and have a detailed understanding of which behaviours they should use in certain situations (based on their appraisal of others' emotional response) (Gardner and Qualter, 2007). Since, teaching behaviour is rooted in socio-cultural matrix of a situation and has an overtly social orientation (Flanders, 1970), as such, emotionally intelligent teachers are found to be in advantageous position due to its efficiency in social cognition. Only emotionally intelligent person can process information conveyed by emotions (Mayer and Salovey, 1997). After processing of information conveyed by emotions of students, if teacher show sensitivity, it refers 'Indirect influence of teachers'.

In addition to this, why emotionally intelligent teachers exerts 'Indirect teacher influence' is substantiated by findings, which revealed that people with high EI tend to be more socially

competent, to have better quality relationships, and to be viewed as more interpersonally sensitive than those lower in EI (Brackett, Rivers, Shiffman, Lerner and Salovey, 2006; Brackett, Warner and Bosco, 2005; Lopes, Brackett, Nezlek, Schutz, Sellin and Salovey, 2004; Lopes, Salovey and Straus, 2002).

Investigators have found significant association between EI and communication effectiveness. Dimensions of EI are found, associated significantly with communication effectiveness (Jorfi and Jorfi, 2011; Mayer, Salovey and Caruso, 2004; Shah, Yaccob and Jorfi, 2011). Communications is culmination of all emotional intelligence abilities; teachers higher on EI abilities are efficient in reading and recognising emotions and feelings of students and communicating emotions (Category 1), are efficient in praising, appreciating and taking the viewpoints of others (Category, 2) are efficient in integrating students' ideas in their explanation (Category, 3) (Ergur, 2009), which are sine qua non of "Indirect Teacher Influence".

Interaction effects of EI by training, EI by sex of teachers and EI by stream (art and science) of teachers are found to be not significant. Only interaction effect of EI by school type (government and private) has been proved to be significant. Moreover, main effect of school type has also been found significant. From Figure 4, it appears that teachers teaching in government schools have performed well on I/D ratio than that of their counterparts of private schools. It refers that nature of job and environment of workplace along with Emotional Intelligence affect teacher influence. Teacher teaching in government type schools are secured for their job and get satisfactory salary as compared to their counterparts in private schools (Gupta and Gehlawat, 2013). These factors along with EI affect teacher influence in classroom.

12. Conclusion

Findings signify the importance of EI for teaching profession. EI has been found to affect classroom interaction pattern significantly. Excluding school type, other demographic variables of study: Sex of teachers, Stream of teachers and training of teachers has not been observed to affect interaction pattern of teachers significantly. Findings of this study are in agreement with findings of studies which revealed that EI abilities underlie communication effectiveness.

13. Implications

Implications of findings of study are:

- Emotional intelligence abilities of teachers decide "Indirect Teacher Influence" in classroom. Teachers higher on emotional intelligence were found to exert "Indirect Teacher Influence" in classroom teaching. Indirect teaching pattern is observed to influence achievement of students (Flanders, 1970; Jangira, 1973; Lulla, 1974; Sharma, 1972). Reporting of a lot of studies bring forth that interaction patterns viz indirect interaction pattern of teachers associate positively with pupil achievement and attitude (Flanders and Simon, 1969; Gage, 1965) (as cited in Buch, 1975). Flanders (1970) discovered significant relationship between teacher influence and pupil achievement and attitudes. So by training of Emotional Intelligence of teachers likelihood of occurrence of "Indirect Teacher Influence" may be increased, which in turn, will affect achievement of students positively.
- Findings of the study stamp validity and importance of theory of emotional intelligence for teachers. Emotional intelligence is likely to enrich armoury of skills and facilitate social cognition required to be better in socio-cultural matrix of classroom interaction.
- Training of skills related to emotional intelligence will increase likelihood of occurrence of 'Indirect' teacher influence in classroom. Indirect teacher influence affects social-emotional climate and cognitive organisation of classroom.

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