Effect of Teacher Interaction on Self-Regulatory Engagement: Pakistani Trainee-Teachers' Perspective

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ABSTRACT

Quality of teaching in teacher education programs have been subject to criticism. Present study aimed to investigate one of the key elements of quality teaching, the teacher interpersonal behavior and its impact on pre-service teachers' Selfregulatory engagement. Data were collected with two extensively used instruments Questionnaire on teacher interaction QTI and Motivated strategies for learning questionnaire MSLQ. Data analysis revealed that only two of the dimensions have significant negative effect on self-regulatory engagement of trainee-teachers.

Keywords: Pre-service teacher education, Preservice teacher, teacher educators, Self-Regulatory Engagement

INTRODUCTION

Cornerstone of quality education is good teaching at all education levels, early education to post-doctoral degrees. With changing global environments and demands changes in educational systems have also taken place. It is needed to alter educational systems to make them compatible with upcoming challenges at domestic and international fronts. This situation requires training teachers accordingly. Therefore, "it is argued that the single most important factor in improving the quality of education is linked to the increased general and professional education of teachers" (Ben-Peretz, Kleeman, Reichenberg, & Shimoni, 2013, p.1).

Preservice Teacher Education

Preservice teacher education programs are conducted especially to prepare and train teachers. Expenditures on teacher education programs are subject to fruitful future outcomes in any country. It is evident from literature that well trained teachers have tremendous effect on students' achievements and performance and eventually positive outcomes for a nation as a whole. Therefore it is highly recommended by educators and policy makers to constitute a good teacher training system (Khan, 2011 pp.45-46). Currently Finland 'education system have been admired by educators and policy makers, such as Darling-Hammond (2010) an educationist from United States of America acknowledged that Finland "ranks first among all the OECD nations on the PISA assessments in mathematics, Science, and reading. The country also boasts a highly equitable distribution of achievement, even for its growing share of immigrant students" (p.165). Sahlberg (2011) explained that among other factors lion share is of the teacher quality preservice teacher education.

Major quality issues in Pakistani preservice teacher education programs can be divided in three categories. For first instance lack of required material especially modern audio visual teaching aids. Another key issue is nature of curriculum that is more theoretical and provides very limited opportunities of practice. Last but most important factor is teaching quality that according to preservice teachers' perspective is unsatisfactory (Fatima, 2010, pp.108-109).

Pre-service Preservice Teacher Education

There are two types of preservice teacher education programs. Pre-service preservice teacher education programs and in-service programs. Oers and Wubbles (2005) mentioned that there are three basic models of preservice teacher education. Competency-based preservice teacher education, the personal orientation to teaching, and reflection and inquiry preservice teacher education either for pre-service preservice teacher education or in-service teacher training programs. When teachers enter practical teaching they have to confront various challenges and take decisions as well. Kale and Whitehouse (2012) asserted that a teacher education program should develop required skills helpful for their future challenges.

LITERATURE REVIEW

Model presented in figure 1 summarizes track of study, it depicts rationale transition or sequence of describing related theories from left to right. On the left hand, first box contains five arrows each arrow shows different theories of constructivism, direction of these arrows to the next box shows that this study supposed to adopt motivational theories those have absorbed substantial factors of these constructivists theories. Third box introduces concept of co-regulated learning that includes role context or factors other than individual student such as environment of educational institution, help from teacher or peer or with learning materials or objects such as computer to get self-regulated learner or transition towards fourth box, last box of the model represents student engagement in self-regulated learning. To distinct the concepts of self-regulation and academic-engagement in self-regulated learning one must keep in mind that engagement is reflection of motivation and self-regulation is a social cognitive theory of motivation and student engagement implies that whether a student really get engaged due to certain motivational drive or not or in other words transaction from box four to box five takes place or not.



Figure 1. Theoretical Framework of the study

Student Engagement

Construct of Student-engagement is still striving for definitions and sub-categories (Reschly & Christenson, 2012, p.11), in the current study operational definition of student engagement in this study is, "outward manifestation of motivation" (Wellborn, 2009). Although there is no definite single definition available of the construct student engagement or academic engagement, one element is common in all descriptions of definitions that this construct is

related to action or activity towards learning. Such as in 2012 Skinner and Pitzer described concept of Engagement as "energized, directed, and sustained action, or the observable qualities of students' actual interactions with academic tasks" (p.24).

Self- Regulatory Engagement

There are three basic kinds of engagement; affective, cognitive, and behavioral engagement (Lawson, M. A. & Lawson, H. A., 2013). The term *Self-Regulatory Engagement* refers the phenomenon when orientation of engagement is cognitive. Numerous overlapping elements between construct of self-regulation and cognitive engagement allow using the term self-regulatory engagement.

Review of various studies on cognitive engagement and self-regulation construct provide that Cognitive engagement and self-regulation construct have various parallel and overleaping characteristics (Wolters & Taylor, 2012). Fundamentally those "Strategies that reflect planning, goal-setting, and monitoring, for instance, are staples of how theorists describe the metacognitive activities displayed by both self-regulated learners and students who are cognitively engaged" (Wolters & Taylor, 2012, p.146).

Facilitators of Student Engagement

Facilitators of student engagement can be divided into two major categories; social facilitators and personal facilitators, "*facilitators* are explanatory causal factors *outside* the target construct"

(Skinner & Pitzer, 2012, p.25). Figure 2 presents' two basic categories of facilitators' social and personal, social facilitators include support from parents, teachers or peers that facilitates basic necessities relatedness, competence, and autonomy. For example if target construct is accomplishment of MPhil or PhD thesis indicator will be completion of five chapters, approval from supervisor, and clearing the final viva though facilitators will be good supervision, appropriate support from university management, and overall favorable circumstances. Skinner and Pitzer (2012) described two facilitators for student-engagement; personal facilitators and social facilitators.



Figure 2.

Teacher Interaction a Social Facilitator of Student Engagement

There is significant effect of teacher-interaction on student learning motivation it does not only comprises teacher interpersonal behavior but students' perception about teaching as well (Brok, Levy, Brekelmans, & Wubbles, 2005). Teacher interaction is an umbrella term for different behavioral dimensions of a teacher.

"The term classroom interaction refers to the interaction between teachers and learners in the classrooms" (Kalantari, p.425). This era is subject to rapid changes in technology and

communication this change has significant effects on classroom learning and interaction patterns as well. But it does not mean that all conventional methods of delivering lectures and interaction have vanished. Instead "such practices are challenged by other modes of communicating and learning, where the demands on students are different from those characterize as traditional, teacher-dominated, classroom interaction" (p.8).

Reynolds (as cited in Brok, Brekelmans, & Wubbles, 2004) "Research on educational and instructional effectiveness has shown that between 7 and 15% of the variance in student outcomes is related to differences between schools, teachers, and classes. Most of this percentage is due to differences between teachers" (p.408).

Stronge (2007) asserted that an important element of effective classroom organization is interpersonal behavior of a teacher. If teacher behaves differently with different students, it develops negative feelings and ultimately negative response from students as well. Likewise, if teacher encourage some students and ignores others it also causes negative feelings in students. Another important element of effective classroom organization is how well a teacher gain confidence of the students if students are satisfied with determined rules and find them reliable it is very helpful for effective classroom organization. One more element related to teacher's interpersonal skill is distinct and realistic anticipations about students' outcomes.

The Model for Interpersonal Teacher Behavior (MITB)

This model deals with teachers interpersonal behavior "along two dimensions: influence (DS, or dominance–submission), and proximity (CO, cooperation–opposition). The influence dimension represents the degree of control or dominance displayed by the teacher, while proximity describes the level of cooperation or opposition between teacher and students" (Brok, Levy, Wubbles, and Rodrigues, 2003, p.357).The model includes eight components leadership, helping/friendly, understanding, student freedom and responsibility, uncertain, dissatisfied, admonishing and strict (Nijveldt, Beijaard, Brekelmans, Verloop, & Wubbles, 2005).



Figure 3.



Wubbles, Cre`ton, and Hooymayers (1985) developed a model to map teacher interpersonal behavior using an adaptation of the work of Leary (1957).Leary concluded that a person's

interpersonal behavior could be described with two dimensions, Proximity and Influence. The Proximity dimension could be indicated on a continuum that has cooperative behavior at one end and oppositional behavior at the other. The influence dimension could be indicated on a continuum that has dominant behavior at one end and submissive behavior at the other. Leary plotted a person's interpersonal behavior on a diagram that had the dominant/submissive continuum (DS) as the vertical axis and the cooperative/oppositional continuum (CO) as the horizontal axis (p.4).

In their application of the model to the classroom situation, Wubbles, cre`ton, and Hooymayers (1985) further divided each quadrant of the original model into two sectors-----giving eight sectors in all, each describing different aspects of interpersonal behavior.

The vertical axis represents teacher influence while horizontal axis teacher proximity. The sectors are labeled DC, CD and so on according to their position in the coordinate system, the letters coding the relative influence of the axes. For example, sectors DC and CD are both characterized by Dominance and Cooperation. However, in DC Dominance predominates over cooperation, whereas in CD cooperation is more evident. The closer two sectors are to each other, the more similar are the teacher behaviors they represent. The Dutch researchers labeled these sectors Leadership, Helping/Friendly, Understanding, and Student Responsibility/Freedom. Uncertain, Dissatisfied, Admonishing and Strict behavior (p.4).

QTI has been adopting extensively in different studies in Netherlands and other countries as well from primary to tertiary level. For instance, in 2006, Brok, Brekelamsns &Wubbles researched over student's multilevel perceptions when data are collected for QTI, in their study they explained that "multilevel nature of studies can appear in the object of research" (p.199), it implies that students' perceptions may influence from environmental factors as well, another point they raised that student not only has individual experience of interaction with teacher but interaction of other students with teacher as that is another important factor which has impact on student perception about interaction regarding a particular teacher.

In 1998 Fisher and Rickards conducted a research in Australia the sample of the study was of 405 students of 8,9, and 10 grade students from mathematics class they investigated relationship between teacher interpersonal behavior and student attitude. Students' perceptions regarding positive behavior of teacher were positively related to high attitudes of students.

STATEMENT OF THE PROBLEM

Quality of preservice teacher education programs is a major concern among Pakistani educators that is evident from different researches on formal and non-formal teacher training programs. Not only educators but government documents have been criticizing preservice teacher education programs for quality issues. such as "the National Education Census (NEC) 2005 and a number of studies indicate that professional preparation of teachers in Pakistan is neither standardized nor based on acceptable professional standards" (National professional standards for teachers in Pakistan ,.6).

Any flaw in preservice teacher education that affects trainee-teacher motivation does not only affect individual performance but motivation of their students in future as well, these prospective teachers are going to influence learning. Accordingly, trainee-teachers' learning process and level of motivation need to be evaluated regularly. Due to limited time and resources this study aims to investigate an important element of quality or effective teaching teacher- interaction and its effect on preservice teachers' academic engagement.

PURPOSE OF THE STUDY

Purpose of underlying study is to investigate effect of teacher-educator interaction on preservice teachers' academic engagement. To see the effect of different dimensions of teacher interaction Model of teacher interpersonal behavior MITB have been selected.

RESEARCH QUESTIONS

RQ1: what teacher-educator interaction dimensions affect trainee-teacher academic engagement?

RQ2: Is there any difference between trainee-teachers' and teacher-educators' perceptions regarding teacher-interaction?

HYPOTHESES

H₁a: Positive (leadership, friendly, understanding, student freedom) dimensions of teachereducators' interpersonal behaviors affect positively trainee-teachers' self-regulatory engagement.

H₂a: Negative (strict, admonishing, dissatisfied, uncertain) dimensions of teacher-educators' interpersonal behaviors affect negatively trainee-teachers' self-regulatory engagement.

H₃a: There is significant difference in scores of teacher-educators and trainee-teachers on all scales of QTI.

METHOD

Variables of the Study

Investigations of this study were based on following variables.

Independent Variable

Teacher-interaction was independent variable of the study, to collect data on this variable both teacher and student versions of QTI were used. Since the sample of the study was consisted of teacher-educators and trainee-teachers. Teacher version of QTI was used for collecting data for perceptions of teacher-educators and student version for collecting data of trainee-teachers' perceptions each version of QTI contains 48 items. Whereas for statistical computations each subscale was treated as an independent variable in SPSS.

Dependent Variable

Student-engagement was dependent variable of the study, to collect the data for dependent variable Self-Regulation scale of MSLQ was used which is consisted of 12 items.

Sample of the Study

Sample of the study was collected in two stages in the first stage; purposive selection of 3 institutions was done. I figured out different main streams of preservice teacher education institutions that are public and private preservice teacher education colleges, private universities' preservice teacher education departments, and private preservice teacher education institutions. Since total population was not known I opted for quota sampling instead of stratified sampling in three institutions they were easily accessible as well as granted permission for data collection. Quota sampling is form of convenience sampling similar to stratified probability sampling. Data collection technique for the teacher-educators was purposive sampling (Cohen, Manion, & Morrison, 2000). "Unlike stratified sampling it sets out to represent these in the proportions in which they can be found in the wider population (Cohen, Manion, & Morrison, 2000, p.103).

193 trainee-teachers and 35 teachers completed this survey. From institution, number one 123 trainee-teachers and 15 teacher-educators completed questionnaires, from institution number two 25trainee-teachers and 10 teacher-educators and from institution number three 40 trainee-teachers and 10 teacher-educators completed survey.

Instruments

In this study, two instruments were used to collect data for both variables. Both student and teacher versions of Questionnaire on teacher interaction QTI were utilized to collect data from teacher-educators and trainee-teachers for the variable teacher-educators' interaction. To obtain data for variable student-engagement quick version of motivated strategies for learning questionnaire MSLQ was selected.

Questionnaire on Teacher-interaction QTI

Main objective to develop QTI was to help teachers to assess their interpersonal behavior with their students, this instrument consist of two versions one for teachers and another for students. There is no such difference between two versions except "this teacher" and "I". Both versions can be used simultaneously in a study and as well as single teacher or student version. This study has used both student and teacher versions. I acquired permission to use QTI through email from DR. Theo Wubbles both emails for permission request and permission granted are in appendix.

Most of the teachers when start their teaching career they in spite of training and content knowledge come across interaction problems with their students and keeping balance in their behaviors, to help out teachers Model for interpersonal teacher behavior that is based on Leary model of interpersonal behaviors provides eight different dimensions of teacher behaviors and to gauge these dimensions QTI if of use (Wubbles, Cre`ton & Hooymayers, 1985).

Sub Scales	Description			
1. Leadership (DC)	Organizes, gives directions, sets tasks, determines procedures, is aware of what is happening, structures classroom situation, explains, makes intentions clear, Holds class attention.			
2. Understanding (CS)	Listens with interest, emphasizes, shows trust, is accepting, looks for ways to settle differences, is patient, is open.			
3. Uncertain (SO)	Acts hesitant, apologizes, has "wait and see" attitude, is Timid.			
4. Admonishing (OD)	Gets angry, is sarcastic, expresses irritation, forbids, Admonishes, punishes.			
5. Helping/friendly (CD)	Assists, shows interest, shows concern, is able to make a joke, inspires confidence and trust.			
6. Student Responsibility/ freedom (SC)	Gives opportunity for independent work, is lenient,			
7. Dissatisfied (OS) I	Is disapproving, questions seriously, looks unhappy or glum, criticizes.			
8. Strict (DO)	Keeps a tight rein, checks, judges, demands silence, sets rules, gives hard tests.			

Table 1

Detail explanation of MITB is included in chapter two following table represents all eight sub sectors and explanation provided by Wubbles, Cre`ton and Hooymayers (1985) MITB presents this explanations within a pie chart. Each completed Questionnaire yields a set of

eight subscale scores. Scale scores equal the sum of all item scores and are reported in a range between 0 and 4.

Reliability and Validity of QTI

Reliability and validity of QTI is evident from various studies (Brok, Levy, Breklmans & Wubbles, 2005).Fisher and Rekards (1998) stated about reliability and validity of QTI;

Several studies have confirmed the reliability and validity of the QTI in the Netherlands (Brekelmans, Wubbles, & Cre`ton, 1990; Cre`ton & Wubbles, 1984; Wubbles, Cre`ton & Hooymayers, 1985).in each of these studies, the Cronbach alpha reliability for each scale was greater than 0.70 at the student level and greater than 0.80at the class level (p.5).Although QTI was developed for high school but its validity and reliability is evident for college and university level as well.

Metacognitive Self-Regulation Scale of Motivated strategies for learning Questionnaire (MSLQ)

Pintrich et al. in 1991 developed an instrument Motivated Strategies for Learning Questionnaire comprised of 81 items and 15 subscales including 6 motivation and 9 learning strategies scales.

For this study metacognitive self-regulation scale of MSLQ has been used, that is also called quick version of MSLQ and according to official website of University of Michigan strongest predictor among other subscales of MSLQ. Similarities between constructs of cognitive engagement and self-regulation allow using this scale for the measurement of cognitive engagement.

RESULTS

Research Question 1

To see the effect of eight different teacher-educators' interpersonal dimensions on studentengagement regression analysis was computed. In order to run linear regression it was essential to examine the data whether it could be used to run regression analysis. "Regression analysis is a method of studying the relationship between two (or more) variables, one purpose being to arrive at a method for predicting a value of the dependent variable" (Kvanli, Pavur, & Keeling, 2006, p.413).

Scrutiny to Check Basic Assumptions for Regression

There are few assumptions those are necessary to check for linear regression analysis. It is crucial to consider these assumptions because negligence can generate coefficients those are not unbiased, "bias means that the estimate based on the sample will not on average equal the true value of the regression coefficient in the population."(p.117). Moreover, another problem that can also arise, only standard errors are not unbiased and hypothesis testing may appear inaccurate(J.Cohen, P. Cohen, West, & Aiken, 2003). D. Aczel and Sounderpandian (2006) suggested four basic assumptions to be kept under consideration. In accordance with those recommendations, four initiatives were taken prior to deciding about the selection of linear regression analysis as statistical tool for research question 1 to meet basic assumptions.

- A. Outlier detection and removal
- B. Test of normality
- C. Linear relationship among independent and dependent variables
- D. Check (Durbin Watson test) to detect evidence of autocorrelation

E. Detection of multi-collinearty

A. Outlier Detection and Removal

Outliers are the values very different from the entire data but presence of outliers can affect overall results of the regression in order to obtain reliable results it is essential to detect and remove outliers. For the first instance, outliers from all eight independent variables and dependent variables were detected and removed. For the detection and removal purpose *Explore* option of SPSS were utilized. For Leadership id 120 and 68, for the Subscale Strict id 40 and 92, for subscale Student freedom id 39, 129, and 140, for subscale Friendly id 106, and for dependent variable student-engagement in 108 and 114 were detected as outliers and removed from data because outliers can affect results of whole data. After excluding outliers' data reduced to 183 observations.

B. Examination of Data for Normality

Normality test was run again with reduced data. Ideally, if skewness has 0 values it implies that data is perfectly bell shaped or normally distributed but; practically it is hard to find data with zero symmetric value.

Table 2						
Subscales	Skewness	Kurtosis				
Leadership	-0.508	-0.253				
Strict	-0.017	-0.432				
Uncertain	0.183	-0.635				
Student Freedom	-0.221	-0.122				
Friendly	-0.230	-0.732				
Understanding	-0.742	-0.559				
Dissatisfied	0.249	-0.838				
Admonishing	0.507	-0.646				

Due to underlying reality Bulmer (1979) rule of thumb is of help to take decision about normality, provided "a distribution with a skewness greater than 1 in absolute value as highly skew, a distribution with a skewness between $\frac{1}{2}$ and 1 as moderately skew, and a distribution with a skewness between 0 and $\frac{1}{2}$ as fairly symmetrical" (p.63).

Positive computed value of skewness implies that most of the data is clustered towards left side of the bell shaped curve, while negative computed value of the skewness implies that most of the data is clustered at the right side of the normality curve.

Table 2 computed skewness values for all independent variables Leadership and Understanding have moderate negative values of skewness -0.508 and -0.742 respectively; Admonishing scale has moderate positive skewness 0.507. Whereas Strict, Student Freedom, and Friendly are symmetrical because their skewness values are less than $\frac{1}{2}$ or 0.5 with negative sign. Uncertain and Dissatisfied are also fairly symmetrical with positive skewness values.

C. Pearson Correlation Test to Check Linear Association

Third assumption requires linear relationship between each independent variable and dependent variable; and all independent variables as group and dependent or response variable. Because as Aczel, Sounderpandian, Savaran, and Joshi 2012 if the correlation between two variables is zero then beta coefficient or slope of the regression line will also be

zero. "The correlation between two random variables X and Y is a measure of the degree of linear association between the two variables" (Aczel, Sounderpandian, Savaran, & Joshi 2012, p.490).

To check the linear correlation between independent and dependent variables Pearson correlation test was conducted. Six independent variables out of eight were found significantly correlated with dependent variable student-engagement at 0.01 alpha level; two independent variables Strict and Student Freedom were not significantly correlated with dependent variable. Only significantly correlated independent variables were included in the final model to run the regression.

,	Table 3					
Correlation between Student-engagement and Independent Variables						
Independent Variable Correlation Significance						
Leadership	0.303	0.000				
Uncertain	-0.286	0.000				
Friendly	0.320	0.000				
Understanding	0.327	0.000				
Dissatisfied	-0.245	0.001				
Admonishing	-0.311	0.000				

The Leadership r=0.303, Friendly r=0.320, Understanding r=0.327 were found positively correlated with dependent variable student-engagement. These three independent variables represent positive dimensions of teacher-interaction according to MITB; positive correlation between these independent variables and dependent variable indicate that positive teacher-interaction lead to increase student-engagement.

Whereas other three independent variables Uncertain r=-0.286, Dissatisfied r= -0.245, and Admonishing r= -0.311 were negatively correlated with dependent variable Student-engagement. These three independent variables are negative dimensions of teacher interpersonal behavior. It implies that negative teacher behaviors lead to lessen student-engagement. Although Pearson correlation coefficients do not examine effect of one variable with another instead induced whether a relationship exists between two variables. For Pearson correlation notion of dependent and independent variable is of no use it is for ultimate objective to run regression.

D. Detection of Heteroscedasticity

Another basic assumption for regression analysis is Homoscedasticity that is constant variance of residuals and when homoscedasticity does not prevail this condition is called Hetrosedasticity. Although, in the presence of heteroscedasticity estimated coefficients are not biased however it may lead inaccurate standard errors and confidence intervals. Hence, it is vital assumption to check prior to decide over regression analysis as statistical model (J. Cohen, P. Cohen, West, & Aiken, 2003).



Figure 4

Therefore, I decided over visual plot examinations for detecting hetroscedasticity for this purpose I opted for scatter plot in order to find the fitted line. Shape of fitted line determines whether problem of hetroscedasticity exits or not. A flatter shape of fitted value shows evidence of no hetroscedasticity. Variance of residuals for all predicted values of regression is zero or constant. Figure 4.1 is scatter plot for whole regression model whereas separate scatter plots for all independent variables are included in appendix with straight fitted lines representing evidence for no hetroscedasticity.

E. Detection of Multicollinearity

Another assumption for regression analysis is multicollinearity that is when independent variables get correlated with each other. Last Colum Collinearity Statistics of the table 6 that is coefficients table for regression model as well show two columns Tolerance and VIF or variance inflation factor. To interpret multicollinearity I will opt for the rule of thumb that if value of VIF is greater than 10 it indicates problem of multicollinearity. It is evident from values of VIF for all predictors that problem of multicollinearity does not exist in this regression model because all VIF values are smaller than 10. Problem of multicollinearity can be examined through values of Tolerance again as rule of thumb if value of tolerance is smaller than 2 it indicates threat of multicollinearity, there is no tolerance value is less than 2.

F. Detection of Autocorrelation

Autocorrelation is a condition when residuals get correlated; this problem mainly occurs in time series or longitudinal data but in some cases may inflate cross sectional data as well. Therefore I used Durbin-watson test to check the problem of autocorrelation. The value of Durbin-Watson test in table 4 is 2.157 which is very close to 2 indicates no autocorrelation or correlation among error terms.

Regression Analysis

To find the answer of research question 1 and testing the related hypotheses 1 to 8 I selected regression analysis because as asserted it is a very powerful statistical tool to analyze the relationships among variables as well as "to predict the value of one variable based on the value of the other" (p.116). For the reason that question 1 required a statistical tool that can explain variation in student-engagement due to values of different dimensions of teacher-educator interpersonal behavior.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson		
1	.424 ^a	.180	.152	9.84243	2.157		

Table 4. Model Summary

a. Predictors: (Constant), admonishing, leadership, uncertain, understanding, friendly, dissatisfied

b. Dependent Variable: st engagement

In the model summary table, R is 0.424 that is correlation between dependent variable and independent variables as a whole. R square or coefficient of determination tells that 18% variation in student engagement can be explained by teacher-educators' different dimensions of interpersonal behavior.

	Model	Sum of Squares	Df	Mean Square	F	Sig.
	Regression	3737.918	6	622.986	6.431	.000 ^a
1	Residual	17049.732	176	96.873		
	Total	20787.650	182			

Table 5. ANOVA^b

a. Predictors: (Constant), admonishing, leadership, uncertain, understanding, friendly, dissatisfied

b. Dependent Variable: st engagement

ANOVA table shows F probability value less than 0.05 which implies that in this regression model at least one predictor can explain variation in student-engagement or dependent variable.

Model -	Unstandardized Coefficients		Standardized Coefficients	ed is	Sig	Collinearity Statistics		
	В	Std. Error	Beta	ι	Sig.	Tolerance	VIF	
	(Constant)	59.627	4.713		12.651	.000		
	Leadership	.152	.230	.067	.659	.511	.456	2.191
Uncertain 1 Friendly Understanding Dissatisfied	428	.191	195	-2.246	.026	.618	1.618	
	.182	.241	.078	.753	.452	.430	2.323	
	Understanding	.315	.205	.159	1.532	.127	.433	2.309
	Dissatisfied	.381	.271	.154	1.410	.160	.389	2.570
	Admonishing	480	.238	208	-2.018	.045	.439	2.278

Table 6. Coefficients^a

Table shows that two independent variables out of eight have significant effect on dependent variable student-engagement. Beta value of the independent variable uncertain implies that 1% increase in uncertain behavior of teacher-educator brings 42% decrease in engagement of

trainee-teacher or 42% variation in dependent variable student-engagement is explained by uncertain teacher-educator behavior. Likewise beta coefficient of independent variable Admonishing implies that 1% increase in admonishing behavior of teacher-educator brings 48% decrease in engagement of trainee-teacher or 48% variation in dependent variable can be explained by independent variable Admonishing. Hypotheses were tested at the 5% alpha level.

Hypothesis 1

Null hypothesis was found true since no positive dimension of teacher-educator was found significant. For the independent variable Leadership p=0.511 that is greater than 0.05, H0 cannot be rejected that there is no significant positive effect of leadership on student-engagement. For independent variable Friendly p=0.452 that was greater than 0.05. H0 cannot be rejected that there is no significant positive effect of teacher-educator on engagement of trainee-teacher. For independent variable Understanding p=0.127 that is greater than 0.05. H0 cannot be rejected that there is no significant positive effect of understanding behavior of teacher-educator on engagement of trainee-teacher.

Hypothesis 2

Null hypothesis was found partially true because two dimensions of teacher-educator's interpersonal behavior were found significant. Independent variable Uncertain has p=0.026 that is less than 0.05 null hypothesis was partially rejected. And alternative hypothesis is true that there is significant negative effect of teacher-educators' uncertain behavior on engagement of trainee-teacher. Independent variable Admonishing had p=0.045 that is less than 0.05 thus H0 rejected. There is significant negative effect of admonishing behavior of teacher-educator on engagement of trainee-teacher.

Research Question 2

To investigate research question two both versions of QTI were administered to collect data from teacher-educators and trainee-teachers for perceptions regarding teacher-interaction.

Table 7. Fan eu Sample t-test								
Pairs		Mean	St. Deviation	St. Error	t	Sig		
Pair 1	led – ledt	-5.60606	6.25969	1.08967	-5.145	.000		
Pair 2	stc – stct	5.78788	6.25878	1.08951	5.312	.000		
Pair 3	unc – unct	4.72727	5.80556	1.01062	4.678	.000		
Pair 4	stf – stft	-2.33333	5.69356	.99112	-2.354	.025		
Pair 5	fri – frit	-3.45455	8.91660	1.55218	-2.226	.033		
Pair 6	und – ndt	-5.09091	6.94336	1.20868	-4.212	.000		
Pair 7	dis – dist	4.81818	5.96581	1.03851	4.639	.000		
Pair 8	adm - dmt	4.93939	6.37348	1.10948	4.452	.000		

Table 7 Paired Sample t-test

There are differences in mean scores of all eight sub-scales between perceptions regarding teacher-interaction reported by teacher-educators and trainee-teachers. Teacher-educators

scored themselves higher on the scales leadership, friendly, understanding, and student freedom and less on the subscales uncertain, strict, dissatisfied and admonishing as compare to scores of trainee-teachers on the same subscales, teacher-educators are more positive about their interpersonal behavior than perceptions of preservice teachers. Paired sample t statistics at 0.05 alpha levels are significant for each pair or subscale; alternative hypothesis accepted that there is significant difference between perceptions of teacher-educators and trainee-teachers.

There were significant differences for the scores by trainees (M=14.03, S.D=5.68) and teacher-educators (M=19.63, S.D=3.07) for the subscale leadership t (-5.14) = and p=0.00. For subscale strict behavior by trainees (M=12.09, S.D=4.03) and by educators (M=6.30, S.D=5.52); t=5.31, p=0.00. For the subscale Uncertain behavior by trainees (M=9.12, S.D=4.7) and by educators (M=4.39, S.D=3.17); t=4.67, p=0.00. For the subscale Student Freedom by trainees (M=10.87, S.D=4.3) and by educators (M=13.21, S.D=3.73); t=-2.35, p=0.25. For the subscale Friendly by trainees (M=15.00, S.D=8.32) and by educators (M=18.45, S.D=3.68); t=-2.22, p=0.03.For the subscale Understanding by trainees (M=13.60, S.D=6.14) and by educators (M=18.69, S.D=3.41); t=-4.21, p=0.00. For the subscale Dissatisfied by trainees (M=9.69, S.D=4.24) and by educators (M=4.87, S.D=3.22); t=4.63, p=0.00. In addition, for the subscale Admonishing (M=10.30, S.D=5.72) and by educators (M=5.36, S.D=3.73); t=4.45, p=0.00.

DISCUSSION

Results demonstrated significant effect of two dimensions Uncertain and Admonishing on self-regulatory engagement and corresponding two dimensions uncertain and admonishing were found significant. Hypothesis 1 was completely rejected whereas hypothesis 2 was partially rejected since dimensions were found significant. Hypothesis 3 was accepted difference between trainee-teachers and teacher-educators were found significant in all dimensions.

Effect of Teacher-Educators' Interpersonal Behavior

QTI and Self-regulation scale of MSLQ are both extensively used instruments but as far as I have researched not any other, research study has checked effect of QTI on Self-regulation scale. However Nugent (2009), investigated correlation between total QTI scores and total scores of self-regulation scale. It was prior to the report of Fredriks et al. wherein they suggested Self-regulation scale of MSLQ as an instrument for student-engagement. However, leaving use of these two instruments aside other studies such as a recent upcoming research by Uden, Ritzen, and Pieters (2014) have found significant effect of teacher-interaction on behavioral, cognitive, emotional student engagement. Although in the present study most of the teacher behavior dimensions were not found significant .However, an interesting fact was found that there was statistically significant correlation between these two variables, if trainee-teachers had rated their educators better or teacher educators had shown better leadership skills this effect could be significant.

Implications from Present Study for Self-Regulatory Engagement

i. First hypotheses was to check whether H: Leadership dimension of teacher-educator affect trainee-teacher engagement, results showed no significant effect of teacher-educators' leadership style on student engagement. Novice teachers have to face leadership problems even after proper training and when these trainee-teachers will enter without proper training will not be able to lead their students in required directions.

- ii. Independent variable Strict and engagement were found two alien variables with no statistical significant relationship. However these results can be different in any future study or consistent with this study. Independent variable Student Freedom was also found uncorrelated with engagement this is the reason these two were not included in regression analysis.
- iii. Independent variable Uncertain was found to have significant negative effect on engagement of trainee-teachers. Teacher-educators are supposed to engage their trainees instead of affecting their learning engagement negatively. In the light of current study, it can be concluded that teacher-educators are not capable enough to explain things clearly. When instructions are not clear it is very difficult to achieve required outcomes.
- iv. Friendly, Understanding, and dissatisfied behaviours of teacher-educator were also not found significant to affect trainee-teachers' engagement in learning.
- v. Independent variable Admonishing had statistically significant negative effect on trainee-teacher engagement that is also a negative subscale of QTI.

Eight hypotheses were tested for research question, mere two independent variables Uncertain and Admonishing were found significant to reject the null hypotheses. These both independent variables represent negative behaviors of teacher-interaction. Teachereducators are teachers of future teachers they are subject to great responsibility it is crucial to them to perform and affect their students positively because Bloom says, "teachers teach as they are taught.

Difference between Perceptions of Educators and Trainees

Significant difference was found between perceptions of educators and trainees for all eight dimensions of teacher-educators' interpersonal behavior. This finding is somewhat consistent with research study of Fatima 2010 researcher did not particularly investigated interpersonal behavior of educators rather evaluated different quality issues including teaching quality of preservice teacher education programs in various preservice teacher educators and trainees; educators were more positive about their teaching practices. Fatima 2010 asserted, "It is likely that the picture painted by the students is the most realistic. The students actually experience the course and the sample is much larger than the two groups" (p.106).

Teacher-Educators as Role Models

Current study did not find significant effect of most of teacher- educators' interaction dimensions on self-regulatory engagement of trainees, mere two dimensions uncertain and admonishing found effective. Not a single positive dimension of interpersonal behavior was found effective in the present study.

New influx of diversity and globalization demands from higher education more quality enhancement in teaching practices and incorporations as well as respect of students' opinions (OECD, 2012).As far as it is vital to prepare students for practical life challenges it is core responsibility of higher education institutions to provide and develop an environment compatible with their requirements. Preservice teacher education institutions are responsible for benefit of their own students but in turn betterment of number of students', ultimately entire teaching quality prevailing in a country.

Average scores on QTI scales of institution were prominently different from other two preservice teacher education institutions. Trainee-teachers rated their educators lowest on QTI subscales of leadership, friendly, understanding, and student-freedom and highest on the subscales on uncertain, strict, dissatisfied, and admonishing. It was decided to conduct focus group discussion their; it is advantage of sequential explanatory mixed method design to investigate deficient portions of the study even after completion of first quantitative phase of the study.

Based upon findings from quantitative studies following qualitative questions were decided to discuss in focus group discussion.

- 1. Are trainee-teachers really so engaged as they are reporting themselves?
- 2. Since teacher-educators interaction has no significant effect on student engagement then what are the factors those motivate them.
- 3. Based on what reasons they report their educators so poorly.

Focus group discussion with two groups in institutions one revealed various themes. Obtained themes were almost same for both groups although different dimensions and intensities painted different pictures. Those themes were used to find the queries emerged from quantitative results of the study. Themes for qualitative were; good teachers, exaggeration, future income and career concerns, threats, biased behavior, accountability, and counseling. Larger groups' opinions were consistent with averages of quantitative survey where trainee-teachers scored their educators poorly. Positive opinions of smaller groups were found consistent with low averages of quantitative survey on leadership, student-freedom, friendly/helping, and understanding.

RECOMMENDATIONS

- 1. Researcher recommends that Pakistani research on education lack studies on both small and particularly on larger scale by public and private institutions related to teacher interpersonal behaviours. Institutions may conduct at least small surveys to assess the perceptions of students with standardized instruments such as QTI.
- 2. In this study, it was assumed that adopt same interpersonal behaviours as their educators have. Researcher recommends that in order to thoroughly investigate that trainee-teachers are really adopting behaviours of their teachers and to what extent it is needed to develop an instrument in local as well as in international context.
- 3. QTI and Self-regulation scale of MSLQ provide option for quantitative inquiry to see the effect of teacher-interaction on student-engagement. There is needed to investigate the same construct qualitatively as well for in depth inquiry.
- 4. These days Pakistani society is facing famine of peace of mind at least educational institutions and specifically teacher training institutions should provide an environment where students can learn tolerance and good communication skills.
- 5. Constructivist school of thought emphasizes that prior knowledge and external environment plays an important role in learning process along with cognitive processes (Killen, 2007). It is responsibility of Pakistani teacher-educators and administrators of preservice teacher education institutions to create an environment wherein prospective teachers can construct knowledge that can help them to become an effective teacher. Such goal can be achieved by role modelling of teacher educators as well as with maximum opportunities of teaching practices. So that preservice teachers can understand real teaching practice problems.

6. In the present study self-regulation scale was used to collect data on studentengagement and two subscales uncertain and admonishing were found significant. Effect of teacher-interaction should also be investigated on data collected through other student-engagement instruments such as SEI and MEI.

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