Teachers' Teaching Styles, Sense of Efficacy and Reflectivity as Correlates of Students' Achievement Outcomes

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Abstract
There is nowadays a burgeoning research base, mostly in mainstream education, acknowledging that teachers have the most important impact on students' achievement outcomes. This line of research, however, has not yet found its way into second language pedagogy and little, if any, empirical evidence exists on which set of EFL teacher characteristics promotes positive student learning outcomes. In line with this argument, the present study investigated three important teacher-related variables, i.e. teaching styles, teachers' sense of efficacy, and teacher reflectivity to see how they relate to student achievement gains in ELT. 30 EFL teachers teaching in Ilam (Iran) high schools participated in this study. The final exam score of the participants' students served as the dependent variable of the study. The results of multiple regression analysis (R=.91) showed that the three variables investigated can significantly predict student achievement outcomes. Besides the R value, the results showed individual correlations between each pair of the variables which reveal interesting relationships.

Key Words: Teacher efficacy, teacher efficacy, teaching style, EFL students, achievement outcomes.

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"Good teaching cannot be reduced to techniques; good teaching comes from the identity and integrity of the teacher". Palmer (1998, P. 10).

Introduction

There has been a substantial theoretical and practical shift of emphasis, mostly in mainstream education, towards acknowledging that teachers are among the principal components of any pedagogical program. In the past ten years, a burgeoning research base has increasingly shown that teachers are the most important players influencing student achievement, holding the key to seal the gaps in students' achievement outcomes (Sanders, 1998, 2000; Goldhaber, 2002). Sanders (1998), for example, states that the "single largest factor affecting academic growth of populations of students is differences in effectiveness of individual classroom teachers' (p.27). Wright et al. (1997) also believe that "more can be done to improve education by improving the effectiveness of teachers than by any other single factor" (p. 63). Along the same line, Alexander and Fuller (2005) argue that "few educators, economists, or politicians would argue with the contention that all things being equal, highly qualified teachers produce greater student achievement than comparatively less qualified teachers" (p.2).

Surprisingly, however, this practical shift of emphasis has not yet completely found its way into the realm of second language pedagogy. It is while the overall importance of teacher quality in EFL pedagogical programs has been *theoretically* acknowledged (Freeman & Johnson, 1998). Lagging behind by almost a decade, second language teacher education has begun to recognize that teachers, apart from the method or materials they may use, are central to understanding and improving English language teaching (ibid). Practically, however, very little, if any, empirical research evidence exists on the effectiveness of the teacher in this field as a cursory look at published papers in ELT journals proves; we still do not know which set of teacher characteristics raise students' achievement and what qualities of the teacher might contribute to positive student outcomes.

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To partially fill this gap, the present study was conducted to tap into the relationship between three major variables that are shown to be related to teachers' performance, i.e. their teaching styles (intellectual excitement and interpersonal rapport) (Black, 1993; Miglietti & Strange, 1998; etc.), sense of efficacy (Bandura, 1997; Midgley, et al., 1989; Good & Brophy, 2003) and reflectivity (Kelly, 1993; Schon, 1987; etc.) to see how they can attribute to student achievement outcomes. More specifically, the following three questions were addressed in this study:

1. Is there any significant relationship between teacher's degree of reflectivity and student achievement outcomes?
2. Is there any significant relationship between teacher's sense of efficacy and student achievement outcomes?
3. Is there any significant relationship between teachers' teaching style (intellectual excitement and interpersonal rapport) and students' achievement outcomes?

Theoretical Framework

Teacher Reflectivity

The simple meaning of reflection is stepping back and thinking about one's actions or thoughts. A literature review of reflective teaching provides us with an array of definitions of what the construct means or entails. Dewey (1933) sees reflection as "active, persistent, and careful consideration of any belief or supposed form of knowledge in the light of the grounds that support it and the further conclusion to which it tends" (p.9). Milrood (1999) also defines reflection as "the process of mirroring the environment non-judgmentally or critically for the purpose of decision-making" (p. 10).

Along the same line, Schon (1987), while describing reflection as a way of presenting and dealing with the problems of practice, of allowing the self to be more open to some possibilities during the process of presenting the problems and then putting those problems in context in order to discover responses and views to implement the situation, distinguishes between two types of reflection. The first type of reflection is "reflection on action" which takes place after a teaching

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episode to allow mental reconstruction and analysis of the actions and events, while the second type of reflection is "reflection in action" which happens during the act of teaching, interpreting, analyzing, and providing solutions to the complex situations in the classroom. Reflection, then, is a kind of self-examination to judge whether things have been done in an appropriate and realistic way and to go further and make meaning of one's actions by questioning motives and attitudes; in other words, reflection means engaging in deliberation and self-criticism with the purpose of refining ones' teaching practices.

Although there is little, if any, empirical research investigating the link between this construct and student achievement outcomes (Akbari, 2007), numerous professionals in the field (Schon, 1987; LaBoskey, 1994; Zeichner & Liston, 1996; etc.) have explored, mostly at the theoretical level, the benefits of reflective practices for teacher effectiveness; the construct is widely recognized as one of the most important schooling factors influencing student achievement gains (Sanders, 2000; Ferguson, 1998; Goldhaber, 2002).

The overall findings of these studies suggest that reflective practice helps to free teachers from impulsive and routine behaviour. It helps teachers to build their daily experiences, allows them to act in a deliberate critical and intentional manner, raises their awareness about teaching, enables deeper understanding and triggers positive change (Farrell, 2003).

As a result of engagement in reflection, teachers become better observers of classroom behavior, which stimulates an awareness of their teacherly decisions and the reasons behind those decisions. This makes their practice increasingly explicit as they begin to understand the motivation for their more intuitive decisions (Nolan & Huebner, 1989). This understanding informs the teachers' classroom approach and reduces their cognitive dissonance making them less inclined to rely on traditional practices if those practices do not produce the desired educational results (Deutsch, 1996). This lack of reliance on

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conventional practices leads to the replacement of unsubstantiated opinion with grounded belief (LaBoskey, 1994) and makes teachers not only the consumers of knowledge, but also primary producers of new knowledge. It, in turn, leads to advances in teacher intellectualism, practitioner self-management, an increase in practitioners' ability to remain current in their field, and a constructivist paradigm of life-long learners (Kelly, 1993; Nolan & Huebner, 1989).

Reflectivity on the part of the teachers, besides its impacts on practitioners, is thought to have some effects on students too. It is argued in the literature that a teacher's engagement in reflective teaching promotes students' ability to be critically reflective, an issue which has been at the heart of recent calls for educational reforms (Yost et al., 2000). As teachers become more aware of reflective practices, they begin to model this reflective behaviour for their students. Consequently, they are more likely to encourage the same behavior in their students (Nolan & Huebner, 1989).

A cursory look at the literature shows, although the theoretical discussions of the impacts of reflective practice on teachers and student reflection abounds (Yost et al., 2000; Nolan & Huebner, 1989; etc.), what appears missing is the empirical investigation of the direct influences of teachers' reflectivity on learners' achievement outcomes (Stewart & Richardson, 2000), one of the questions addressed by this study. This dearth is even graver in the area of second language pedagogy as teacher reflectivity is far more recent in ELT relative to mainstream education.

Teacher Sense of Efficacy

Teacher sense of efficacy, defined as a teacher's "judgment of his or her capabilities to bring about desired outcomes of student engagement and learning" (Tschannen-Moran & Hoy, 2001, p.783) is now regarded as a relevant variable in educational research, especially in relation to teacher performance and student achievement gains (Good & Brophy, 2003).

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The strong link between this important construct and student achievement has been demonstrated through many studies, mostly in mainstream education (e.g. Midgley et al., 1989; Good & Brophy, 2003; Ashton & Webb, 1986; Bandura, 1997, Zimmerman, 1995; etc.).

These studies have indicated that teachers with high sense of efficacy take more risks and set higher standards for themselves and their students, leading to higher academic gains among learners (Good & Brophy, 2003). Teacher efficacy also has been shown to be related to many other behaviors that have the potential to impact student achievement. For instance, there is evidence that teacher efficacy is strongly related to teachers' adoption of innovations (Gusky, 1988) and classroom management strategies (Gibson & Dembo, 1984) which preserve student motivation and self-esteem, both with the potential of being translated into more success for individual students.

It is also argued that teacher efficacy may influence student achievement through teacher persistence (Good & Brophy, 2003). Teachers with high efficacy take responsibility for student learning and may view student failure as a push for greater effort to improve achievement. These teachers spend more time monitoring and working with their students, (through whole-group instruction, for example), and providing the means for higher levels of students' engagement. Efficacious teachers are more likely to implement instructional strategies to enhance student learning, rather than just covering the curriculum. They also take more risks and have the confidence in overcoming classroom challenges that contribute to higher student achievement (ibid).

In contrast, teachers with low efficacy feel they have only minimal influence on students' learning outcomes. Such teachers give up more easily when confronted with difficult situations, are less resourceful, and often feel that students cannot learn because of extenuating circumstances (Ashton & Webb, 1986; Bandura, 1997). Such teachers tend to create classroom cultures that "undermine

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students' sense of efficacy and cognitive development" (Bandura, 1995, p. 20) and rely on extrinsic motivation or punishments to get students to study. According to Hoy (2000), pre-service teachers with a low sense of teacher efficacy have an orientation toward control, take a pessimistic view of students' motivation, and rely more on strict classroom regulations, extrinsic rewards, and punishments to make students study. Teachers who lack a secure sense of teacher efficacy are reported to "show weak commitment to teaching, spend less time in subject matters in their areas of perceived inefficacy, and devote less overall time to academic matters" (Bandura, 1995, p. 20).

In addition to student achievement, teachers' efficacy beliefs have also been studied with reference to their behavior in the classroom, which in turn helps students' academic growth. Efficacy influences the effort teachers invest in teaching, the goals they set for their classes, and their level of aspiration (Ware & Kitsantas, 2007). In addition, teachers with a strong sense of efficacy often tend to manifest greater levels of planning and organization. They are also more open to new ideas and tend to experiment with new methods and strategies to better meet the needs of their students (Guskey, 1987). Efficacy beliefs influence teachers' persistence when things do not go smoothly and enhances their resilience in the face of setbacks (Tschannen-Moran & Hoy, 2001).

Greater efficacy makes teachers capable of being less critical of students when they make errors (Ashton & Webb, 1986) and working longer and better with a student who is struggling (Gibson & Dembo, 1984). Teachers with a higher sense of efficacy show greater enthusiasm for and are more inclined towards teaching, feel more commitment to teaching and are more likely to stay in the profession (Glickman & Tamashiro, 1982).

Teacher's Teaching Style

Teaching style, the last variable of concern in this study, refers to a teacher's pervasive qualities that persist even though situational conditions may change. It is a label associated with various acquirable

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and identifiable sets of consistent classroom behaviors by the teacher regardless of the content that is being taught (Conti & Welborn, 1996). In other words, teaching style is the expression of the totality of one's philosophy, beliefs, values, and behaviors (Jarvis, 2004), and it "includes the implementation of [this] philosophy; it contains evidence of beliefs about, values related to, and attitudes toward all the elements of the teaching-learning exchange" (p.40).

Teaching style is a very influential factor in students' learning experiences (Knowles, 1980), and is a critical component in determining the extent of students' learning because teachers provide the "vital human connection between the content and the environment and the learners" (Heimlich & Norland, 1994, p.109) and because it stems from an educational philosophy that lends direction and purpose to a teacher's teaching (Galbraith, 1999). This claim about the effectiveness of teaching style is supported by a comprehensive body of research, especially in mainstream education, which links it also to student achievement outcomes (see, for example, Black, 1993; Miglietti & Strange, 1998). The existence of this rich body of research about teaching style is based on the premise that teachers do not all teach alike and that classroom teaching styles are not all equally effective (Baily, 1984).

A look at published research reveals that researchers have developed various categorizations of teaching styles and have used different terminologies to describe different styles of teaching. The categorization of teaching styles into *visual, auditory, group, kinesthetic, individual and tactile styles* (Salem, 2001), *Formal-Informal* (Bennett, et al., 1976), *Open –Traditional* (Solomon & Kendall, 1979), *Intellectual Excitement – Interpersonal Rapport* (Lowman, 1995), *expert, formal authority, personal model, facilitator, and delegator* (Grasha, 1994), are but some of the attempts made to clarify the construct more.

Drawing on these categorizations, different measures of assessing teachers' teaching style have also been developed. But as the detailed

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description of each of these measures falls beyond the scope of the present study, we briefly explain the instrument used in this paper, i.e. *Intellectual Excitement (IE) – Interpersonal Rapport (IR)* (Lowman, 1995) and why we have opted for this measure. The instrument is a rigorously developed and frequently referenced two-dimensional model for characterizing the range of teaching styles of different teachers (Larson, 2007). It was developed by Lowman (1995) through an ethnographic analysis of over five hundred nominations for teaching awards. The model is presented as a two-dimensional matrix which is used to provide a global perspective on teaching that is framed within the concepts of Intellectual Excitement (IE) and Interpersonal Rapport (IR). Intellectual Excitement focuses on the content to be learned – the clarity of what is being presented and how it is being presented. Interpersonal Rapport focuses on the learner – classroom psychology and awareness of the interpersonal phenomena. The measure consists of 22 items, eleven of which measure teacher's intellectual excitement and the remaining items measure teacher's interpersonal rapport. The instrument employs a 5-point Likert format ranging from 1 = never to 5 = always; teachers will be placed on the various points of the two continua of Intellectual Excitement and Interpersonal Rapport based on their scores in each of the dimensions. The reason why this measure is used in the present study is that the scores obtained from this instrument can be easily converted into interval data, thus giving a numerical value for each of the components of intellectual excitement and interpersonal rapport, and in this way lending itself easily to regression analysis. Also, the present measure is reported to be a rigorous, valid, reliable and frequently-referenced measure of teaching style (Larson, 2007; Razak et al., 2007).

Although treated well in mainstream education, the construct of teaching style has not received its due share in second language pedagogy (Razak et al., 2007). The present study will hopefully serve as a preliminary step in addressing this need.

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Methodology

Participants

Participants of the study consisted of 30 EFL teachers and their students in various high schools in Ilam Province, Iran. Teachers' ages ranged from 23 to 48. They had degrees in TEFL, English literature or linguistics, and their experience in teaching ranged from 2 to 26 years; both male and female teachers participated in the study. The students whose final scores were used as a measure of their achievement were 630 students, both male and female eleventh graders studying Natural Sciences in high schools in Ilam, Iran. It should be pointed out that the English course these students pass is a general course aiming at building up some elementary familiarity with English language rather than an ESP course related to natural sciences.

Instrumentation

Teacher Reflectivity Questionnaire

The teacher reflectivity questionnaire used in this study was developed by Akbari, Behzadpour and Dadvand (forthcoming). The questionnaire includes 29 items on a 5-point Likert format ranging from 1 = never to 5 = always. The robust qualitative and quantitative analyses done on the measure has yielded some underlying factors of the teacher reflectivity construct in it, including Affective, Cognitive, Metacognitive, Practical and Critical dimensions. The questionnaire enjoys high reliability and validity as a measuring instrument for teacher reflectivity. The reliability for the measure with the sample in the present study was found to be .84.

Teacher Sense of Efficacy Scale

Teachers' sense of efficacy was measured using the Teacher Sense of Efficacy Scale (previously called the Ohio State Teacher Efficacy Scale, Tschannen-Moran & Hoy, 2001). This measure consists of 24 items, assessed along a 9-point continuum. Previous factor analyses have identified three 8-item subscales in this scale: Efficacy for Instructional Strategies, Efficacy for Classroom Management, and Efficacy for Student Engagement. Reliability of the instrument with the study sample was found to be .86.

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Lowman's (1995) Two-Dimensional Teaching Style Scale

This instrument is a dependable measure developed by Joseph Lowman (1995); the scale is used to assess teachers' teaching styles by investigating their perceptions and preferences with respect to the concepts of Intellectual Excitement (IE) and Interpersonal Rapport (IR). The instrument employs a 5-point Likert continuum beginning with 1 representing that 0% to 10% of the time the item applies to the respondents and ending with 5 showing that 95% to 100% of the time the item is true about them. It includes 22 items, eleven of which measure teacher's intellectual excitement and the rest measure teacher's interpersonal rapport. Reliability of the present measure was found to be .84.

End-of-the-Year Achievement Test

The end-of-the-year English achievement test for eleventh graders in high schools in Iran is a standardized written test measuring the progress of the students in all the areas of the syllabus covered over the course of the year. It includes items on Spelling, Structure (Multiple Choice and Open-ended), Vocabulary Use, Language Functions, Pronunciation, Reading Comprehension (Sentence and Text comprehension), and Scrambled Sentences. The students' papers are scored blindly. The reliability of the test was calculated to be .82 with the present study sample.

Procedure

As a first step, the final English Language Exam scores of the student participants (without the class participation score which may vary across teachers) were retrieved from the Exams Department of Ilam Educational Office. The reason why this score was chosen as the index of students' achievement was that the papers were scored anonymously and based on a set of guidelines issued by the ministry of education. The researchers then got their respective teachers' names from the department of education. The teachers were then contacted and agreed to fill in the study's instruments in a week's time. The scores of the teachers

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in each of the three questionnaires were then matched against their students' final English scores and the required statistical procedures (see below) were run to interpret the results.

Data analysis

As there are three independent variables or predictors and one dependent variable, Multiple Regression Analysis was used as the main statistical procedure for the purpose of investigating the hypotheses put forward in the study. Besides handing in the *R* value, this statistical procedure gives us the individual correlations between any two variables in the study.

Results

As stated earlier, the present study aimed to investigate the relationship among the variables of teaching style, teacher reflectivity and teacher sense of efficacy as determinants of student achievement outcomes. To investigate the three research hypotheses of the study, a Multiple Regression Analysis was run which provides the following results:

Table 1

The descriptive statistics for the variables and their components

	N	Minimum	Maximum	Mean	SD
Teacher Reflectivity	30	54	133	95.5333	22.4034
Teacher Efficacy	30	62	186	133.1000	31.4010
Interpersonal Rapport	30	15	50	33.0000	7.6112
Intellectual Excitement	30	15	45	31.1667	7.5067
Student Outcome	30	9.21	18.47	14.8027	2.5706
Efficacy in Student Engagement	30	15	70	45.2667	13.5441
Efficacy in Instructional Strategies	30	21	61	42.2333	11.6935
Efficacy in Classroom Management Strategies	30	14	73	45.5667	14.4477
Metacognitive Reflectivity	30	11	32	22.0000	5.7894
Cognitive Reflectivity	30	11	29	19.9667	5.4803
Critical Reflectivity	30	12	31	22.4333	5.0901
Practical Reflectivity	30	10	29	21.5000	5.8413
Affective Reflectivity	30	4	14	9.3000	2.9729
Valid N (listwise)	30				

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Table 2
The Regression results for the hypotheses**:**
Variables Entered/Removed b

Model	Variables Entered	Variables Removed	Method
1	Intellectual Excitement, Interpersonal Rapport, Teacher Reflectivity, Teacher Efficacy [a]	.	Enter

a. All requested variables entered.
b. Dependent Variable: Student Outcome

Table 3
The Regression results for the hypotheses: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.919 a	.845	.820	1.0912

a. Predictors: (Constant), Intellectual Excitement, Interpersonal Rapport, Teacher Reflectivity, Teacher Efficacy

Table 4
The Regression results for the hypotheses**:** Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	2.502	1.174		2.131	.043
Teacher Reflectivity	3.341 E-02	.013	.291	2.532	.018
Teacher Efficacy	4.613 E-02	.010	.564	4.548	.000
Interpersonal Rapport	6.018 E-02	.030	.178	2.039	.052
Intellectual Excitement	3.151 E-02	.038	.092	.830	.414

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As the results of the Multiple Regression Analysis (R= 91) indicate, the three variables of teaching style, teacher reflectivity and teacher sense of efficacy can significantly predict student achievement outcomes. When looked at individually, we can observe almost the same predicting power for each of the variables, (See Table 5). All of the variables show strong correlations with student achievement except for interpersonal rapport which shows a correlation of .39.

Table 5
Correlations of the main variables

		Student Outcome	Teacher Reflectivity	Teacher Efficacy	Interpersonal Rapport	Intellectual Excitement
Pearson Correlation	Student Outcome	1.000	.790	.855	.392	.684
	Teacher Reflectivity	.790	1.000	.698	.300	.562
	Teacher Efficacy	.855	.698	1.000	.164	.642
	Interpersonal Rapport	.392	.300	.164	1.000	.374
	Intellectual Excitement	.684	.562	.642	.374	1.00
Sig.(1-tailed)	Student Outcome	.	.000	.000	.016	.000
	Teacher Reflectivity	.000	.	.000	.054	.001
	Teacher Efficacy	.000	.000	.	.193	.000
	Interpersonal Rapport	.016	.054	.193	.	.021
	Intellectual Excitement	.000	.001	.000	.021	.
N	Student Outcome	30	30	30	30	30
	Teacher Reflectivity	30	30	30	30	30
	Teacher Efficacy	30	30	30	30	30
	Interpersonal Rapport	30	30	30	30	30
	Intellectual Excitement	30	30	30	30	30

The correlations table also reveals interesting relationships between each pair of the variables, which are worthy of attention. The correlation between teacher reflectivity and teacher efficacy is reported to be .69, a high enough level of correlation, that of reflectivity and interpersonal rapport is a mere .30 which is not significant and the correlation between teacher reflectivity and intellectual excitement is .56, a mediocre correlation value. The correlation between teacher efficacy and interpersonal rapport is .16 which is not significant. This correlation was expected to be higher because efficacy for student engagement as one component of efficacy construct was expected to be

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increased due to the correlation of this construct with interpersonal rapport, but a later informal talk with the teachers confirmed that they do not see interpersonal rapport and efficacy for student engagement as similar. Many of the teachers believed we can engage students without necessarily having a high rapport with them. The correlation between teacher efficacy and intellectual excitement is .64 and lastly, the correlation of interpersonal rapport and intellectual excitement as two components of teaching style is reported to be .37, again not so high a correlation.

Besides running multiple regression analysis for investigating the correlations of the main variables with student achievement, another level of analysis, that of investigating the correlations among the constituents of teacher reflectivity (Affective, Cognitive, Metacognitive, Practical and Critical dimensions), teacher sense of efficacy (Efficacy for student engagement, Efficacy for instructional strategies and Efficacy for classroom management), and the two components of teaching style (Intellectual Excitement and Interpersonal Rapport) was carried out. The results are as follows:

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Table 6
The Regression value for the variables and their components: Correlations

Pearson Correlation	1	2	3	4	5	6	7	8	9	10	11
Student Outcome (1)	1.0	.39	.68	.62	.80	.62	.63	.72	.58	.76	.76
Interpersonal rapport (2)	.39	1.0	.37	.09	.35	-.02	.19	.27	.28	.16	.30
Intellectual excitement (3)	.68	.37	1.0	.40	.58	.53	.52	.56	.43	.52	.50
Efficacy in Student Engagement(4)	.62	.09	.40	1.0	.40	.28	.35	.50	.55	.60	.51
Efficacy in Instructional Strategies (5)	.80	.35	.58	.40	1.0	.63	.48	.56	.42	.55	.58
Efficacy in Classroom Management (6)	.62	-.02	.53	.28	.63	.00	.49	.45	.38	.50	.39
Metacognitive Reflectivity (7)	.63	.19	.52	.35	.48	.49	1.0	.68	.42	.55	.47
Cognitive Reflectivity (8)	.72	.27	.56	.50	.56	.45	.68	1.0	.86	.90	.76
Critical Reflectivity (9)	.58	.28	.43	.55	.42	.38	.42	.86	.00	.90	.67
Practical Reflectivity (10)	.76	.16	.52	.60	.55	.50	.55	.90	.90	1.0	.81
Affective Reflectivity11)	.76	.30	.50	51	.58	.39	.47	.76	.67	81	1.0

Table 7
The Regression value for the variables and their components: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.956 a	.914	.869	.9317

a. Predictors: (Constant), Affective reflectivity, Practical reflectivity, Critical Reflectivity, Cognitive reflectivity**,** Metacognitive reflectivity**,** Efficacy in class management**,** Efficacy in instructional strategies, Efficacy in student engagement, Intellectual excitement, Interpersonal rapport

As it can be observed from the analysis of the Multiple Regression Analysis for the constituents (R =95), almost all the constituents except interpersonal rapport have an acceptable predicting power for student achievement. Efficacy for instructional strategies has the highest degree of correlation (R = .80) with student achievement. Affective reflectivity

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(.76) and practical reflectivity (.76) have the second highest degree of correlation with student achievement; then come cognitive reflectivity (.72), intellectual excitement (.68), metacognitive reflectivity (.63), efficacy in classroom management (.626), efficacy in student engagement (.625), critical reflectivity (.58). Interpersonal rapport (.39) has the lowest level of correlation with student achievement.

Discussion

The results of the present study show a high correlation between teacher reflectivity and student achievement outcomes. The reason for this significant relationship is best manifested in Waltermire's (1999) idea that:

> Reflective practice is, first and foremost, centered on student learning and a commitment to helping students succeed. Reflective teachers seem interested in growing and learning but not for learning's sake or necessarily for increased pedagogical skills except as it may help them help a student. Thus they are always searching for new ideas and techniques. Reflective practice starts with a passion for wanting to help children succeed. These teachers are constantly puzzling over what works and what doesn't work in order to help children learn. Their reflection is fueled by their passionate commitment to help children to learn (p. 115).

In fact, reflection is a passionate desire on the part of the teachers to transform problematic classroom situations into opportunities for students to learn and grow. In Dewey's (1933) terms, reflection is thought to be a purposeful attempt which resolves complex classroom dilemmas into educative experiences which lead to further student and even teacher growth and learning. Students, in such a context, become more sensitive and responsive to new and broader educational opportunities. Indeed, effective reflection in teaching takes students out of educational ruts and makes them more motivated towards learning

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(ibid). Through reflection, teachers can react, examine and evaluate their teaching to make rational decisions on necessary changes to improve attitudes, beliefs and teaching practices which leads to better student performance and achievement. Also, reflective teaching comes to facilitate meaningful thought and discussion among peers about teaching and learning that will inspire appropriate change in curriculum and pedagogy. These judgmental practices can impact positively the understanding of what is going on in our classrooms and in producing changes in methodology, assessment, and instruction, which would naturally bring in higher student achievement in the wake of itself (Pacheco, 2005).

The importance of the finding of the present study lies in the fact that almost all the claims related to the influence of teacher reflectivity on student achievement outcomes have been theoretical and this study sheds empirical light on the issue. Thus, the results of the study imply that teacher education programs should familiarize pre-service and even in-service teachers with the components of reflective approach to teaching if they want to educate effective teachers, who, in turn enhance student achievement gains (Sanders, 2000; Ferguson, 1998; Goldhaber, 2002).

The results of the present study also indicated a positive relationship between teacher sense of efficacy and student achievement outcomes. This finding can be supported with reference to the results of a large number of studies, mostly in mainstream education, which have corroborated the positive effects of teacher's sense of efficacy on student success and achievement outcomes and studies that have proved students of efficacious teachers generally outperform those in other classes (e.g. Midgley et al., 1989; Good & Brophy, 2003; Ashton & Webb, 1986; etc.). That teachers with high efficacy beliefs generate stronger student achievement than teachers with lower teacher efficacy can be attributed to several factors.

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First, it is believed that teachers who possess a secure sense of efficacy show strong commitment to teaching, spend more time in subject matters in their areas of perceived inefficacy, and devote more overall time to academic matters (Good & Brophy, 2003) and this would naturally lead to students' better performance in the classroom.

Second, self-efficacy impacts teachers' instruction, choice in activities, levels of effort and persistence with students which, in turn, positively impacts teacher performance, commitment, and professional retention (Tschannen-Moran & Hoy, 2001) that, in turn, translates into higher student growth and learning. Self-efficacious teachers are far more likely to plan more effective lessons, take more responsibility for student achievement, and persist when students face challenges and search extensively for appropriate strategies and materials to improve student achievement. In addition, they are more likely to remain committed to their work and tend to overcome situations that challenge their ability to teach. They are more optimistic and take personal responsibility for their failures and successes. On the contrary, teachers with low self-efficacy tend to blame extraneous sources for their failures (Ware & Kitsantas, 2007).

Third, efficacious teachers produce higher student achievement because they use effective management strategies that stimulate student autonomy and reduce custodial control and keeps students on task. Moreover, they implement influential instructional strategies, which enhance student academic growth, and modify students' perception of their own abilities (Gray & Ross, 2006).

The last, but not the least, efficacious teachers are more willing to cooperate with parents and in this way try to let them know about students' educational performance. Being more confident of their teaching abilities, efficacious teachers are more likely to invite parent involvement in school related activities (Hoover-Dempsey, Bassler, & Brissie, 1992). This parent engagement promotes strong home school

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connections leading to increased student engagement, motivation, and achievement.

The results of the present study also revealed something about the relationship between teaching style and student achievement outcomes. Nevertheless, the results did not indicate a high correlation between interpersonal rapport, as a component of the teachers' teaching style, and student achievement. This finding is at odds with the theoretical discussions about the issue and reveals a discrepancy between theory and practice. Interpersonal Rapport (IR) focuses on the learner – classroom psychology and awareness of the interpersonal phenomena. It is often believed that an instructor demonstrating low IR is described as cold, distant, highly controlling, or unpredictable. Consequently, students are characteristically afraid and uneasy, are motivated by fear, and believe that the teacher actively dislikes them. An instructor demonstrating high IR shows a strong interest for each student as individuals, acknowledges the feelings of students, encourages questions, and communicates that their understanding of content is important. Likewise, students believe that the teacher cares about them and their learning. They believe that the teacher has confidence in their abilities, and the students are motivated to do their best (Larson, 2007). Thus, this variable is expected to have a high correlation with student achievement outcomes. However, despite all the theoretical discussions on the influences of the interpersonal rapport on student achievement outcomes, the results of the present study did not show as high a correlation as that between Intellectual Excitement, as another component of teacher's teaching style, and student achievement outcomes.

Intellectual Excitement (IE), on the other hand, focuses on the content to be learned – the clarity of what is being presented and how it is being presented. The reason for the high correlation is that the content in a high IE classroom is well-organized. It is presented in clear language, in an engaging way, and relationships between topics are stressed. Teachers with high IE love the course content. In response,

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students know where the teacher is going, they see connections between topics, and they experience a sense of excitement about the content (Lowman, 1995). "A telling feature of a high IE classroom is that the class period passes quickly and the lecture is described as great!"(Larson, 2007, p.3). In a low IE classroom, on the other hand, the material is often presented without energy or enthusiasm while being vague and confusing. In this context, students find it difficult to pay attention to what is being taught and are frustrated, confused, or uncertain.

The data also showed a significant correlation among the three variables of teacher reflection, sense of efficacy and intellectual excitement as a component of teaching style. This correlation can be explained and justified by a look deep into the nature of the concepts and a glimpse on the literature. The essential quality inherent in the three variables is a desire to teach well. As mentioned earlier, intellectual excitement centers on what is being presented in the class and how it is being put forward. It calls for a smooth and clear classroom organization and an engaging well-structured lesson presentation wherein the connections between topics are emphasized. In much the same way, sense of efficacy deals with the efficiency of the teacher in the three interrelated areas of classroom management, instructional strategies and student engagement the end aim of which is to help present the material well to the learners. Along a similar line, a reflective teacher is defined as the one "who critically examines his/her practices, comes up with some ideas as how to improve his/her performance to enhance students' learning, and puts those ideas into practice" (Akbari et al., forthcoming, p.1) to refine his teaching practices. As it is evident, upon dissecting the three variables, they all have qualities, which aim at a common goal, that is, the better presentation of academic material to the learners. Thus, they are more than likely to correlate.

Also a look at the literature reveals some points linking reflection and sense of efficacy. Lowery (2003), for instance, sees reflectivity and sense of efficacy as quite close concepts and believes that benefits from

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reflective teaching include increases in confidence, autonomy, and self-efficacy for teachers. Likewise, Iran-Nejad and Gregg (2001) maintain that reflection is one type of self-regulation. Thus, they believe, there is a strong likelihood that engaging in reflection will strongly impact a teacher's self-efficacy since self-efficacy is closely tied to self-regulation. This assertion finds a better manifestation in Bandura's (1997) terms when he states that self-efficacy regulates one's functioning through some processes one of which being "Cognitive Processes", which is defined much the same way it is defined in relation to reflection, i.e. cognitive constructions which aim at augmenting one's performance.

Conclusions

The present study provided some empirical insights into the powerful constructs of teacher efficacy, teacher reflectivity and teaching style (intellectual excitement) when viewed through the lens of student achievement outcomes. The results of the study confirm the three variables as the key teacher-related factors, which significantly predict student achievement outcomes. Concomitant to this are immediate calls for the inclusion of these factors in any teacher preparation program. These programs should become more devoted to fostering these three constructs in their student teachers if they want better performance on the part of the practitioners. The fortunate side of the issue is that the three variables are highly correlated (See Table 4) and fostering one would necessarily result in improving the other. The development of these three variables in teacher takes on even a greater importance in the present age in which educational accountability is much valued.

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