L2 Teacher Characteristics as Predictors of Students' Academic Achievement

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Abstract

There is a substantial research base, mainly in mainstream education, acknowledging that teachers have a great impact on student achievement. However, as far as we know, little if any empirical evidence exists to enable us to determine which set of English as a foreign language (EFL) teacher characteristics correlates with positive student learning outcomes. In line with this, our study investigated three teacher-related variables–teaching style, teachers' sense of efficacy, and teacher reflectivity–to see how they relate to student achievement gains in an English-language teaching (ELT) context. Thirty EFL teachers teaching in Iranian junior and senior high schools participated in this study, with the final-exam score of the participating students serving as the dependent variable of the study. The results showed that the study variables can significantly predict student achievement. Individual correlations were also found among the variables. The study highlights teachers' central role in language teaching settings and the need for a closer inspection of teacher-related variables.

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 among the most important players

influencing student achievement, holding the key to sealing the gaps in students' achievement outcomes (Ferguson, 1991, 1998; Goldhaber, 2002; Sanders, 1998, 2000). 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, Hom, and Sanders (1997) also believe "more can be done to improve education by improving the effectiveness of teachers than by any other single factor" (p. 63). Along the same lines, Alexander (2005) argues 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, this practical shift of emphasis has not yet completely found its way into the realm of second language pedagogy, though the overall importance of teacher quality in EFL pedagogical programs has been *theoretically* acknowledged (Freeman & Johnson, 1998). Second language teacher educators have begun to recognize that teachers, apart from the method or materials they use, are central to understanding and improving the quality of English language teaching (Freeman Johnson, 1998). Practically, however, very little if any empirical research evidence exists on the effectiveness of teachers in ELT. 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.

In order to partially fill this gap, we conducted the present study to tap into the relationship between three major variables. These variables are related to teachers' performance, that is, their teaching styles (intellectual excitement and interpersonal rapport) (Black, 1993; Miglietti & Strange, 1998); sense of efficacy (Bandura, 1997; Good & Brophy, 2003; Midgley, Feldlaufer, & Eccles, 1989; Moore & Esselman, 1992); and reflectivity (Pennington, 1995; Pultorak, 1993; Schon, 1987) to see how they can contribute to student achievement outcomes.

Specifically, the following three questions were addressed in this study:

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

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).

Schon (1987), another major figure in reflection literature, describes reflection as a way of presenting and dealing with the problems of practice, of allowing the self to be more open to different possibilities during the process of presenting teaching problems and then putting those problems in context in order to discover actions to improve the situation. There are two types of reflection, according to Schon. The first type is "reflection on action," which takes place after a teaching episode to allow mental reconstruction and analysis of the actions and events, while the second type is "reflection in action" which happens during the act of teaching and entails 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 one's teaching practices.

Although there is little, if any, empirical research investigating the link between this construct and student achievement (Akbari, 2007), numerous papers (see, for example, LaBoskey, 1994; Schon, 1987; Zeichner & Liston, 1996) 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 (Ferguson, 1998; Goldhaber, 2002; Sanders, 2000). These studies suggest that reflective practice helps to free teachers from both impulsive and routine behaviour. Reflection, in addition, provides the means for 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).

By engaging in reflection, teachers become better observers of classroom behavior, which stimulates an awareness of their teaching decisions and the reasons behind those decisions As they begin to understand the motivation for their more intuitive decisions, their practice becomes increasingly explicit (Nolan & Huebner, 1989). In turn, this understanding informs 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 (Garman & Gaynor, 1986). Freedom from conventional practices leads to the replacement of unsubstantiated opinion with grounded belief (LaBoskey, 1994) and makes teachers not only consumers of knowledge, but also primary producers of new knowledge. Finally, this 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 learning (Nolan & Huebner, 1989).

Reflectivity, besides its impacts on practitioners themselves, 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, Sentner, & Frolenza-Baily, 2000). As teachers become more aware of reflective practices, they begin to model reflective behavior for their students (Nolan & Huebner, 1989; Wildman, Niles, Magliaro, & McLaughlin, 1990).

Although theoretical discussions of the impact of reflective practice on teachers and students abound in the literature (Yost et al., 2000; Nolan & Huebner, 1989), what appears missing is empirical investigation of the direct influence of teachers' reflectivity on students' achievement (Stewart & Richardson, 2000), one of the questions we address in this study. This dearth is even more noticeable 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).

The strong link between this important construct and student achievement has been demonstrated through many studies, mostly in mainstream education (e.g., Anderson, Greene, & Loewen, 1988; Ashton & Webb, 1986; Bandura, 1997; Good & Brophy, 2003; Midgley et al., 1989; Pajares, 1996; Schunk, 1991; Zimmerman, 1995).

These studies have shown that teachers with a strong sense of efficacy take more risks, set higher standards for themselves and their students, and provide the potential for higher academic gains among learners (Wood & Bandura, 1989). Teacher efficacy also has been shown to be related to many other behaviors that have the potential to impact student achievement. For instance, teacher efficacy has been shown to be strongly related to teachers' adoption of innovations (Gusky, 1988; Smylie, 1988) and classroom management strategies (Gibson & Dembo, 1984) which preserve student motivation and self-esteem, both with the possibility 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), providing the means for higher levels of student 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 confidence in overcoming classroom challenges, which contributes to higher student achievement (Good & Brophy, 2003).

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 students'sense of efficacy and cognitive development" (Bandura, 1995, p. 20) and rely on extrinsic motivation or punishment 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 lacked a secure sense of teacher efficacy were 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).

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 (Allinder, 1994). 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 (Berman, et al., 1977; Guskey, 1987; Stein & Wang, 1988). Efficacy beliefs influence teachers' persistence when things do not go smoothly and enhance their resilience in the face of setbacks (Tschannen-Moran & Hoy, 2001).

Greater efficacy makes teachers less critical of students when they make errors (Ashton & Webb, 1986) and pushes them to work 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 (Burley, et al., 1991; 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 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). 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 since 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; Conti, 1985; Cupkie, 1990; Miglietti & Strange, 1998; Welborn, 1996). 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 the existence of various conceptualizations of teaching styles. Some attempts to clarify the construct include the following categories:

- Visual, Auditory, Group, Kinesthetic, Individual, and Tactile Styles (Salem, 2001)
- Formal – Informal (Bennett, Jordan, Long, & Wade, 1976)
- Open -Traditional (Solomon & Kendall, 1979)
- Intellectual Excitement – Interpersonal Rapport (Lowman, 1995)
- Expert, Formal Authority, Personal Model, Facilitator, and Delegator (Grasha, 1994)

Different measures of assessing teachers' teaching style have also been developed by drawing upon these categorizations. But as the detailed description of each of these measures falls beyond the scope of the present study, we briefly explain the instrument used in this paper, 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 500 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; 11 of them 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 are placed on the various points of the two continua based on their scores in each of the dimensions. We used this measure in the present study because 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. Therefore, the measure lends itself to regression analysis. Also, the measure is reported to be a rigorous, valid, reliable, and frequently-referenced measure of teaching style (Larson, 2007; Razak, Ahmad & Mohd Shah, 2007).

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

Method

Participants

Participants in the study consisted of 30 EFL teachers and their students in various public high schools in Ilam Province, Iran. All the teachers held BA degrees in TEFL, English literature, or linguistics, with ages ranging from 23 to 48. The participants' teaching experience was from 2 to 26 years; both male and female teachers participated in the study. As a measure of their achievement we used the final scores of 630 male and female eleventh graders studying natural sciences. The English course these students were taking was part of their national high school curriculum and was aimed at building up some elementary familiarity with English.

Instruments

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 have identified 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 an instrument for measuring teacher reflectivity (Akbari, et al., forthcoming). The reliability for the measure with the sample in the present study was found to be .84. It was calculated using Cronbach's Alpha.

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 (Tschannen-Moran & Hoy, 2001) have identified three 8-item subscales in this construct: Efficacy for Instructional Strategies, Efficacy for Classroom Management, and Efficacy for Student Engagement. The instrument has been frequently used in various studies

(Eslami & Fatahhi, 2008; Knobloch, 2006; Nikolaos, Vasilios, & Koustelios, 2007). Reliability of the instrument with the study sample was found to be .86, calculated using Cronbach Alpha.

Lowman's 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, 11 of which measure intellectual excitement and the rest that measure interpersonal rapport. The instrument is a rigorously developed two-dimensional model for characterizing the range of teaching styles of different teachers (Larson, 2007; Razak et al., 2007). Reliability of the measure with the present study sample, calculated with Cronbach's Alpha, 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 .82, calculated through test-retest method with a sample of 28 of the participants.

Procedure

As a first step, the final English-language exam scores of the student participants (without the class participation scores, which may vary from teacher to teacher) were retrieved from the exams department of the Ilam educational office, along with the names of the participants' teachers.

The teachers were then contacted and asked to fill in the study instruments in a week's time. The scores of the teachers on 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 providing the R value, this statistical procedure gives us 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. Table 1 provides descriptive statistics of means and standard deviations of the variables included in the study.

Table 1. Descriptive Statistics for the Main Variables and Their Components

Variable	n	Mean	SD
Teacher Reflectivity	30	95.53	22.40
Teacher Efficacy	30	133.10	31.40
Interpersonal Rapport	30	33. 00	7.61
Intellectual Excitement	30	31.16	7.50
Student Outcome	30	14.80	2.57
Efficacy in Student Engagement	30	45.26	13.54
Efficacy in Instructional Strategies	30	42.23	11.69
Efficacy in Classroom Management	30	45.56	14.44
Metacognitive Reflectivity	30	22.00	5.78
Cognitive Reflectivity	30	19.96	5.48
Critical Reflectivity	30	22.43	5.09
Practical Reflectivity	30	21.50	5.84
Affective Reflectivity	30	9.30	2.97
Valid N (listwise)	30		

Tables 2 and 3 provide the model and results of the regression analysis run on the independent and dependent variables.

Table 2. The Regression Model

Variables Entered/Removed (a)

Model	Variables Entered	Variables Removed	Method
1	Intellectual Excitement		
	Interpersonal Rapport		Enter
	Teacher Reflectivity		
	Teacher Efficacy (b)		

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

Table 3. Model Summary

Model	R	R Square	Adjusted R Square	SD of Estimate
1	.919 (a)	.845	.820	1.0912

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

As the results of the multiple regression analysis (adjusted R= .82) show, the three variables of teaching style, teacher reflectivity, and teacher sense of efficacy can significantly predict student achievement outcomes. We can observe almost the same predicting power for each of the variables when looked at individually (See Table 4). All of the variables show strong correlations with student achievement except for Interpersonal Rapport, which shows a correlation of .39, not reaching significance level.

Table 4. 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	1.000
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	--	.000
	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 (Table 4) also reveals attention-worthy relationships between each pair of variables. 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, an average 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 the Efficacy construct was expected to increase 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 believe we can engage students without necessarily having a high rapport with them. The correlation between Teacher Efficacy and Intellectual Excitement is .64. Lastly, the correlation of Interpersonal Rapport and Intellectual Excitement as two components of teaching style is reported to be .37, again not a high correlation. .

Besides running multiple regression analysis to investigate correlations between the main variables with student achievement, we carried out another level of analysis for the purpose of investigating the correlations among the subcomponents 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). Tables 5 and 6 present the results of this regression analysis.

Table 5. Model Summary

Model	R	R Square	Adjusted R Square	SD of Estimate
1	.956 (a)	.914	.869	.9317

(a) Predictors (Constant): Affective Reflectivity, Interpersonal Rapport, Efficacy in Classroom Management, Efficacy in Student Engagement, Metacognitive Reflectivity, Intellectual Excitement, Critical Reflectivity, Efficacy in Instructional Strategies, Cognitive Reflectivity, Practical Reflectivity

Table 6. The Regression Value for the Variables and Their Components

	Student Outcome	Interpersonal Rapport	Intellectual Excitement	Efficacy for Student	Efficacy for Instructional Strategies	Efficacy for Classroom	Metacognitive Reflectivity	Cognitive Reflectivity	Critical Reflectivity	Practical Reflectivity	Affective Reflectivity
Student Outcome	1.00	.39	.68	.62	.80	.62	.63	.72	.58	.76	.76
Interpersonal Rapport	.39	1.00	.37	.09	.35	-.02	.19	.27	.28	.16	.30
Intellectual Excitement	.68	.37	1.00	.40	.58	.53	.52	.56	.43	.52	.50
Efficacy for Student Engagement	.62	.09	.40	1.00	.40	.28	.35	.50	.55	.60	.51
Efficacy for Instructional Strategies	.80	.35	.58	.40	1.00	.63	.48	.56	.42	.55	.58
Efficacy for Classroom Management	.62	-.02	.53	.28	.63	1.00	.49	.45	.38	.50	.39
Metacognitive Reflectivity	.63	.19	.52	.35	.48	.49	1.00	.68	.42	.55	.47
Cognitive Reflectivity	.72	.27	.56	.50	.56	.45	.68	1.00	.86	.90	.76
Critical Reflectivity	.58	.28	.43	.55	.42	.38	.42	.86	1.00	.90	.67
Practical Reflectivity	.76	.16	.52	.60	.55	.50	.55	.90	.90	1.00	.81
Affective Reflectivity	.76	.30	.50	.51	.58	.39	.47	.76	.67	.81	1.00

(Pearson Correlation — row label shown vertically at left)

The analysis of the multiple regression analysis for the constituents (*R* = .95) shows that 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 (.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 and Conclusions

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 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 to resolve complex classroom dilemmas into educative experiences leading to further student and 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 to learn (Dewey, 1933). Through reflection, teachers can react, examine, and evaluate their teaching to make rational decisions about necessary changes to improve attitudes, beliefs, and teaching practices which lead to better student performance and achievement (Bainer & Cantrell, 1991). Also, reflective teaching facilitates meaningful thought and discussion about teaching and learning among peers that will inspire appropriate change in curriculum and pedagogy. These judgmental practices can have a positive impact on our understanding of what is going on in our classrooms and in producing changes in methodology, assessment, and instruction. These would naturally bring about higher student achievement. (Pacheco, 2005).

The importance of this finding lies in the fact that almost all the claims related to the influence of teacher reflectivity on student achievement outcomes have been theoretical. This study sheds empirical light on the issue. Thus, the results of the study imply that teacher education programs should familiarize preservice and even inservice teachers with the components of reflective 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 a teacher's sense of efficacy and student achievement. 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 a teacher's sense of efficacy on student success and achievement and studies that have proved students of efficacious teachers generally outperform those in other classes (e.g., Anderson, Greene, & Loewen, 1988; Ashton & Webb, 1986; Good & Brophy, 2003; Midgley et al., 1989) That teachers with high efficacy beliefs generate stronger student achievement than teachers with lower teacher efficacy can be attributed to several factors.

First, teachers who possess a secure sense of efficacy show a 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). These behaviors naturally lead to students' better performance in the classroom.

Second, self-efficacy affects teachers' instruction, choice in activities, levels of effort, and persistence with students. These have a positive effect on teacher performance, commitment, and professional retention (Tschannen-Moran & Hoy, 2001), translating, in turn, into greater student growth and learning. Self-efficacious teachers are far more likely to plan more effective lessons, take more responsibility for student achievement, 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, reduce custodial control, and keep students on task (Woolfolk, Rosoff, & Hoy, 1990). Furthermore, they implement influential instructional strategies that enhance student academic growth and modify students' perception of their own abilities (Gray & Ross, 2006).

Last but not least, efficacious teachers are more willing to cooperate with parents and try to let parents 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 connections, leading to increased student engagement, motivation, and achievement.

The results of the present study did not indicate a high correlation between Interpersonal Rapport (IR) as a component of the teachers' teaching style and student achievement. This finding reveals a discrepancy between theory and practice. Interpersonal Rapport focuses on learner-classroom psychology and awareness of interpersonal phenomena. Instructors demonstrating low IR are often described as cold, distant, highly controlling, or unpredictable. Consequently, their 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 in students 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 they are motivated to do their best (Larson, 2007). Thus, IR is expected to have a high correlation with student achievement outcomes. However, despite all the theoretical discussions on the

influences of IR on student achievement outcomes, the results of the present study did not show as high a correlation between IR and achievement as that between Intellectual Excitement, another component of teaching style, and student achievement. This indicates the differential nature of the two components of the teaching style construct.

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 between IE and achievement 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, 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 and is 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 (IE) as a component of teaching style. This correlation can be explained and justified by the nature of the concepts and the literature. The essential quality inherent in the three variables is a desire to teach well. As mentioned earlier, IE comprises what is presented in the class and how it is put forward. It calls for a smooth and clear classroom organization and an engaging, well-structured lesson presentation whereby the connections between topics are emphasized. In much the same way, Sense of Efficacy focuses on the efficiency of the teacher in the three interrelated areas of classroom management, instructional strategies, and student engagement. The end aim is to help present the material well to the learners. Similarly, a reflective teacher is defined as 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 or her teaching practices. All three variables aim at a common goal: the best presentation of academic material to learners. Thus, they are more than likely to correlate.

An additional look at the literature reveals some notes linking reflection and sense of efficacy. Lowery (2003), for instance, sees reflectivity and sense of efficacy as closely related concepts and believes that benefits from 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 affect 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 "cognitive processes," defined as cognitive constructions which aim at augmenting one's performance.

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. The results of the study confirmed the three variables as key teacher-related factors that can significantly predict student achievement. Concomitant to this are immediate calls for the inclusion of these factors in teacher preparation programs. Such programs should foster these three constructs in their student teachers if they want better performance on the part of practitioners. Fortunately, 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 teachers takes on an even greater importance in the present age, in which educational accountability is much valued.

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