The Mediating Role of Teacher and Student Academic Behaviors in Explaining Relations between Teacher Expectations and Academic Performance: Implications for Classroom Instruction

Reda Darge*

Abstract: This study examined the role of teacher and student academic behaviors as mediators of the effect of teacher expectations on academic performance. Data pertaining to these variables were obtained from 28 students (16 high ability and 12 low ability students) and one mathematics teacher in Bahir Dar preparatory school. Teacher expectations, teacher behavior, and student academic behavior were measured using scales, and academic performance was assessed in terms of students' average score in mathematics. Analysis involving multiple regressions suggested that teacher expectations did not independently contribute to academic performance. However, teacher expectations appeared to have an effect on students' academic performance indirectly via their significant relations with teacher and students' academic behaviors. The estimated path model confirmed that the effect of teacher expectations become greater as they operate indirectly through teacher and academic behaviors.

The Problem

Can teacher's expectations of students influence their academic performance? The original works in teacher expectations (Rosenthal and Jacobson, 1968; Brophy and Good, 1970) put forth the theory that teacher expectations of achievement of a given student lead to a self-fulfilling prophecy. That is, if a teacher consistently communicates either high or low expectations about a student's achievement, the student tends to achieve in the way the teacher expects. The result was similar to those found in several other expectation studies (Brophy and Good, 1974; Good and Brophy, 1978).

* Associate Professor, Faculty of Education and Behavioral Sciences, Bahir Dar University, e-mail:reda_darge@yahoo.com.

Other researchers did not obtain significant teacher-expectancy effects, and sometimes those who were expected to do poorly did well (Goldenberg, 1992). Rosenthal (1985) analyzed relevant studies and reported that significant effects were obtained in a little more than one-third of the studies inspired by Pygmalion. Using a meta-analytic procedure, Rosenthal(1985) argued that Pygmalion effects were real, although they tended to be small, Rosenthal's (1985) evaluation is the most effective, well-informed appraisal of the Pygmalion studies, with report of null effects in follow-up studies accompanied by methodological criticisms of the original Pygmalion study (Elashoff and Snow, 1971). Teacher beliefs alone have only a small effect on student achievement, if there is any effect at all. Even if the data and their interpretations are accepted the Rosenthal and Jacobson's work remains only a demonstration of the existence of expectancy effects; their study did not address itself to any of the intervening factors between the inducement of teacher expectations and academic achievement.

Although there are many doubts about whether teacher expectations alone can affect achievement there are far fewer doubts that teachers behave differently as a result of their expectations about students based on previous experiences with those students (Hall and Merkel, 1985). That is, even if teachers do not react differently to students on the basis of test reports about the students' abilities, they do react differently when they see evidence of high and low ability in their daily interactions with students. After getting to know the students, early in the school year, teachers communicate differential expectations to students they perceive as having greater or lesser learning potential. Researchers have conducted numerous detailed examinations of the teacher expectations communicated to students in classroom settings and how these messages influence students' outcomes. Most researchers accept Good and Brophy's (1980) description of the process listed below:

(1) early in the school year, teachers form differential expectations about student behavior and achievement;
(2) consistent with these differential expectations teachers behave differently toward various students;
(3) this treatment tells students something about how they are expected to behave in the classroom and perform on academic tasks;
(4) if the teacher treatment is consistent over time and if students do not actively resist or change, it will likely affect their self-concept, academic motivation, levels of aspiration, classroom conduct and interactions with the teacher;
(5) whey these effects generally will complement and reinforce the teachers expectations, students will come to conform to these expectations more than they might have otherwise; and
(6) ultimately, this will affect the student achievement and other outcomes.

Many studies have generated controversy about the extent to which the practice of teachers' communicating differential expectations to students they perceive as having greater or lesser learning potential is widespread. While some researchers have concluded that differential treatment is very widespread and very damaging to those students perceived as low potential, most do not agree. Instead, they argue that the majority of teachers both form both initial expectations on the basis of viable information and adjust their expectations and instructional approaches as changes in students' performance occur (Brophy and Good, 1970; Cooper and Good, 1983; Good, 1987; Meyer 1985; Reudenbush, 1984; Winebuge, 1987). This is particularly true with experienced teachers who know their students well.

Studies that sought to identify how differential expectations are communicated to students have been carried out at different times. In fact, merely holding certain expectations about students has no magical power to affect their performance or attitudes. The translation of these expectations into behavior influences outcomes. It is important to keep in mind that most teachers do not translate differential expectations into behaviors that inhibit

students' academic growth. Instead, they seek and find ways to help each student reach his or her learning potential.

Brophy and Good (1970) studied teacher-student interactions in four grade-1 classrooms intensively. They observed that classroom life was different for higher-ability and lower-ability students. Based on their own work and other research on teacher-student interactions in classrooms, Brophy and Good (1970) compiled a list of ways that the classroom environments of low-ability and high-ability students differ. Below is list of Good and Brophy's (1985, p. 310) observation of teacher behavior. Many of the items in the list may also apply to classroom context in Ethiopia.

- teachers demand less from low-ability students;
- teachers are less likely to wait for a low-ability student to response to questions than for a high ability student;
- teachers give briefer responses to the questions of low-ability students;
- teachers' reinforcements are less likely to follow correct responses of low-ability students;
- low ability students are criticized more often and receive less praise than high-ability students;
- teachers are less friendly in their interactions with low-ability students;
- teachers call on low-ability students less often than they do high-ability students;
- teachers seat low-ability students farther away from the teacher's desk than they do high ability students; and
- teachers are less likely to give low-ability students the benefit of the doubt on close calls in grading than they are high-ability students.

These differences in how low-ability and high ability students are treated are easily detected by other teachers and students (Babad et al., 1991). It is easy for others to spot which students a teacher expects to do well and which students he/she believes will be slow.

Weinstein (1989), cited in Dembo (1994) invariably emphasized that students can accurately report differences in the ways teachers work with high and low achievers. More importantly, teacher practices provide clues about student ability. Students can also read clues about their relative smartness in, for example, the differentiations of assignments of tasks to students, patterns used to group students, motivational strategies used for instruction, responsibilities given to learners, and in the quality of teacher-student relationships. Brophy and Good (1970, 1974) and Brophy (1985) believed that differential treatment affects students' perceptions of themselves and their own abilities. Low-ability students come to perceive very clearly that they are less likely to succeed than high-ability students. They form negative academic self-concepts, which in turn reduces their motivation for school and learning and their levels of aspiration. Given their unpleasant school life, it might not be surprising to find low-ability to be less behaving themselves than high- ability students. They can also be observed to less likely seek out interactions with the teacher than high-ability students (Brophy, 1985). Researchers noted that students in low groups and tracks have been found to get less exciting instruction, less emphasis up on meaning and conceptualization, and more role drill and practice activities than those in high reading groups and tracks (Brophy, 1983; Good and Brophy, 1984). They also noted that the instructional environment in heterogeneous groups and classes is similar to that in high groups and tracks-more demanding, more opportunities to learn, and a warmer socio-economic climate.

What is at work is probably a vicious cycle, with teachers believing that children who behave poorly are likely to achieve less academically (Bennet et al., 1993). This belief fuels teacher behavior toward the unruly child. This means that the behavior of the teachers is not as supportive of academic advancement as teacher behavior directed to better behaved children who behave well in school make more academic progress than do ill behaved children (Wentzel, 1993), perhaps mediated in part by teacher expectancies about the academic competence of well-behaved and ill-behaved students that affect teacher behaviors directed toward the children. Brophy (1985)

invariably highlighted that a teacher's perceptions about his or her students' academic abilities and behaviors can serve to increase differences in achievement between those students to the extent that the perceptions affect teacher behaviors toward children. Reda (2002), similarly, emphasized academic achievement to be a function of students' academic behaviors and teachers' preferences for students.

A possible explanation for effective schools to have high expectations for students is to take advantage of the phenomenon of a self-fulfilling prophecy. Thus, when teachers expect much of their students, the teachers' positive expectations can influence their own teaching behaviors so that their interactions with students are more favorable. In turn, the academic self-concepts of students in such schools are improved, as are the motivational beliefs of students and ultimately their long-term academic performances. Fortunately, with support teachers can learn to raise their expectations of students (Weinstein et al., 1995). Cooper and Good (1983) have conducted research on student awareness of differential treatment and have found that students are generally very much aware of it in classroom where it is pronounced. These researchers have also found that student attitude-and particularly the attitudes of low-expectation students-are more positive in classrooms where differential treatment is low. In a similar vein, Brophy (1983) and Marshall and Weinstein (1984) pointed out that the negative effects of differential teacher treatment can be either direct or indirect. Giving low-expectation students limited exposure to new learning in very direct ways, many of the kinds of differential treatment elaborated by Brophy (1985), however an indirect in their effects. That is, they give students messages about their capabilities. To the extent that students believe and internalize those messages, their performance can come to reflect the teachers' beliefs about their ability. In this way, teacher expectation effects are said to be mediated by student perceptions.

Expectation effects in classroom are not just one-way. That is, teachers' reactions to students can also be influenced by students' reactions to teachers. Jamieson et al (1987) explained that expectancy effects in classrooms are not just one-way affairs (i.e., teacher reacting to student) but can be mediated by student reactions to teachers. Jamieson et al. (1987) convinced two classes of grade-11 students that they were being taught by an able English teacher. These students outperformed students in control English classes who have not been led to believe that the same teacher was exceptionally able. Jamieson et al believed that a number of interacting effects may have contributed to the overall difference, with students in the positive-expectancy classes talking more, with this in turn affecting the teacher's perceptions, which in turn affected the teacher's behavior, and so on.

In sum, the most important points emerged from the review of the literature emphasized that teacher expectations about achievement might affect teacher behaviors that in turn affects students' academic behavior and performance. Much of the literature reviews on teacher expectations calls attention to the fact that students do in fact have different ability level and require different instructional approaches. Neither of the authors whose work was reviewed for this research suggested that teachers should hold the same expectations for all students nor they should deliver identical instruction to all of them. Rather, they focus on the problems created when differential treatment either creates or sustains differences in student performance that would probably not exist if students were treated more equitably. Teacher's expectations and behaviors probably do help to sustain, and perhaps even expand the differences in academic achievement between high and low ability students.

Given the power of teacher expectations to influence students' learning and their feelings about themselves the review points to the need for the investigation of the relationship between teacher expectations and student outcomes to break the link between teacher expectations and academic performance of for low ability students. This can, particularly, be done in

Ethiopian context where the exploration of their relationship has been limited. To this end the following questions were raised in the current study:

1. Are teacher expectations, teacher behavior, and student academic behavior related to academic performance?
2. Do teacher expectations, teacher behavior, and student's academic behavior have direct and indirect effects on student academic performance?

Significance of the Study

The understanding of the relationship between teacher's academic behavior and performance has important implication for teachers, curriculum experts, school personnel, and staff development specialists. Briefly, the study is significant because it:

1. helps teachers develop supportive academic environment both for weaker and stronger students;
2. helps teachers select appropriate instructional approaches that may assure academic progress for all students;
3. identifies ways to communicate expectations though policies and practices with focus on academic goals;
4. presents substantial evidence that specific teaching practice has an impact on the development of academic achievement;
5. provides information on how teachers treat weaker and stronger students equitably;
6. helps to design training that may enable school staff members to become aware of their differential treatment of students, and help them to make positive changes in their thinking and behavior; and
7. provides information on how teacher expectations develop and how to minimize the negative effects associated with low expectations.

Delimitation of the Study

The scope of the study was delimited to one randomly selected secondary school (in Bahir Dar town). Bahir Dar was selected because of its proximity to my place of work. This also makes future intervention easier. The study was delimited to Bahir Dar because the researcher's place of work has been there and hence follow-up plans and participation in future intervention programmes would be easily attained.

Definitions of Terms

Below are the definitions of terms used in the study:

Mediator variable: the variable in the absence of which the relationship between the background variable (which is assumed to occur prior to the mediator variable) and the dependent variable (which is assumed to follow the mediator variable) weakens or vanishes.

Teacher Perception: refers to teacher's feelings, attitudes or beliefs related to their students' performance.

Teacher expectation: inferences that teacher makes about student's future academic performance in mathematics.

Teacher behavior: refers to teacher's own teaching behavior, the academically relevant teacher-student interaction and the quality of instruction given in the classroom.

Student academic behavior: refers to the ways that a student behaves in the classroom and performs on mathematics classroom tasks.

Self-concept: the organized representation of a learner's attitudes and beliefs about himself or herself.

Self-fulfilling prophecy: the tendency of students to live up (or down) to expectations of their teachers.

Limitation of the Study

The limitation of this study was that students' responses to the items in the instrument might vary depending on their interest in the course's topic. So, students' responses to the items in the scale might not correspond to their actual academic behavior.

Methods

Participants

Data for this study were drawn from grade 11 students in Bahir Dar School, Bahir Dar Town. The study was concerned with students at the preparatory school level because this is the level at which a particular important time when students develop a concept of ability and understand their teachers' differential expectations of them (Brophy, 1983).

Fisher et al (1978) noted that effective teacher behavior is often specific to grade level and course taught. Because of this only grade 11 students and their mathematics teacher were taken as the subjects of the study. In particular, 3 sections of students who were taught by one of the 4 mathematics teachers were involved in the study. The selection of the teacher was randomly made.

Once the sections were selected, their math teacher was given a list of 128 names in participating sections. He was given a chance to select the names of high-ability and low-ability students in the course he was teaching at the time. The teacher was asked to use evidence of high and low ability that he has perceived in his daily interactions with students. Then, a total of 28 students (16 high –ability and 12 low-ability students) were selected to serve as the subjects of the current study.

Moreover, only high-ability and low-ability students were included in this study. An important consideration was that the practice of teacher's differential treatment is very widespread to students he perceives as having grater or lesser learning potential (Good, 1987).

Instruments

Measure of Teacher's Expectations

Teacher expectations refer to inferences made by the teacher about his students' present and future academic achievement (Brophy and Good, 1987). Items in teacher expectations scale assessed teacher predictions or expectancies about students' achievement. The measure of teacher expectations consisted of 8 items adapted from the available literature. Examples of the items are:

1. I think that this student will achieve high score in the subject I have taught her/him.
2. I think that this student will have trouble to learn she/he is unable to cope with the subject I have taught her/him.

In the measure of teacher's expectations scale, the responses to the statements were "strongly agree", "agree", "disagree" or "strongly disagree", and they were scored 4, 3, 2 and I respectively. The reliability of the scale as measured by Cronbach's alpha coefficient was 0.77.

Measure of Teacher's Behavior

Teacher's behavior refers to the amount of help and concern teacher directs towards students during instructional process (Brophy and Good, 1990). Items in teacher behavior scale were designed to measure differential patterns of teacher-student interactions in math teaching and learning. The measure of teacher behavior scale consisted of 11 items adapted from Gibson and Dembo (1984). Examples of the items are:

1. I give fewer opportunities to this student than other students to learn new concepts in math.

2. I am less likely to wait less time for this student to answer during class recitations.

Ratings were made on a four-point scale ranging from 4(strongly agree) to 1(strongly disagree). Upon administration of the scale to the respondents, Cronbach's alpha coefficient was calculated to be 0. 76.

Measure of Student's Behavior

Student's behavior refers to the ways that a student behaves or performs on mathematics class (Brophy and Good, 1990). The measure of student's behavior scale consisted of 5 items adapted from Pressley and McCormick (1997). Examples of the sample items are:

1. I am working hard in mathematics class just to get high score.
2. I do well in math.

Ratings were made on a four-point Likert scale ranging from 4 (strongly agree) to 1 (strongly disagree). The reliability of the scale, estimated by Cronbach's alpha coefficient, was 0.81.

Measure of Student's Academic Performance

Student's academic performance was assessed in terms of their grade 11 average score in mathematics (2006 academic year). The scores were coded on a continuous scale ranging from 5(above 85 percent) to 1(below 50 percent) (MOE, 1970).

In general, the above-specified scales were used is this study for two reasons. Firstly, the reliability indices of the scales were qualified as "good" according to the standard of 0.75 set by Shaw and Wright (1967). Second, the items in the scales were unambiguous to the subjects of the study.

Procedure of Data Collection

Data for the study was collected after the purpose of the study was made clear to the subjects included in the study.

The data was collected in two phases. First, data about teacher expectations and behavior and student academic behavior were gathered from respondents in late spring using scales. Math test scores were collected from students file at the end of the academic year.

Method of Data Analysis

Correlation, multiple regression, and partial correlation analyses were used to analyze the data used in this study the current study. Correlation analysis was used to make an overview of possible overlaps among predictor variables and academic performance. Multiple regression analysis was employed to examine whether teacher expectations and behavior were independent predictor of academic performance when the confounding effects of student behavior was statistically controlled. Partial correlation analysis was used to study the role of teacher and student academic behaviors as mediating variables.

A test of significant of partial correlation between teacher expectations and academic performance, after controlling teacher and student academic behaviors , was carried out to select the mediator variables. If the first order partial correlation between teacher expectations and academic performance proved nonsignificant at 0.05 levels after controlling teacher behavior or student academic behavior , then the teacher behavior or student academic behaviour was considered to be acting as a mediator variable. But if none of the first order partial correlation were proved nonsignificant, the second order partial correlations, controlling the variable which yielded the lowest first order partial correlation and one of the remaining variable, was computed. The variables, or a combination of the variables, which brought down the correlation between teacher expectation and academic performance were treated as mediator variables.

The multiple regression analysis model used in the current study was as follows:

$$Y= \beta_1X_1 + \beta_2X_2 + \beta_3X_3$$

Where Y= dependent variable
β_i's =standardized beta weights
X_i's =independent variables

Using Bartlett's test of homogeneity of variance, the assumption of homogeneity was found to be tenable and the use of multiple regression was justified.

Results

Results are reported in two sections. First, interrelations among teacher expectation, teacher behavior, student behavior, and academic performance are presented. Next, findings from multiple-regression analysis designed to assess the direct and indirect effects of teacher expectation, teacher behavior, and student behavior on academic performance are reported.

Interrelationships among Variables

Table 1 indicates zero order correlations between teacher expectation and behavior, student behavior, and academic performance.

Table 1: Interrelationships among Variables

Variable	X_1	X_2	X_3
Teacher expectation (X_1)	-		
Teacher behavior (X_2)	0.53*	-	
Student behavior (X_3)	0.45*	0.52*	-
Academic Performance ($X_{4)}$	0.46*	0.46*	0.72*

** P < 0.05*

Findings in Table 1 indicate that academic performance was related significantly and positively to teacher expectation, teacher behavior, and student behavior. Indices of teacher expectation, teacher behavior, and student behavior were also related significantly to each other.

Independent Predictors of Academic Performance

Multiple-regression analysis was used to examine the independent effects of teacher expectation, teacher behavior, and student behavior on academic performance.

Table 2: Results of Regression Analysis on Academic Performance

Predictor Variable	Academic Performance
Teacher expectation (X_1)	0.15
Teacher behavior (X_2)	0.06
Student behavior (X_3)	0.63*
Over all R^2	0.54*

**P < 0.05*

According to the results shown in Table 2, student behavior was a significant independent predictor of academic performance, but teacher expectation and behavior were not. The model explained 54 percent of the variance in academic performance, $F(3, 24) = 9.521$, $P < 0.05$.

Teacher's and Student's Behavior as Mediators between Teacher's Expectation and Performance.

Results of the regression analysis (Table 2) suggested that neither teacher expectation nor teacher behavior were significant independent predictors of academic performance when the effect of student behavior was statistically controlled. However, it was quite possible that teacher expectation and behavior influenced academic performance indirectly, by way of their significant relations with student's academic behavior. Initial evidence (Table

1), which depicted significant correlations between teacher expectation, teacher behavior, and student behavior, and results shown in Table 2, which suggested that student behavior was significant, independent predictor of academic performance support this anticipation.

Stronger evidence for indirect effects is obtained by regressing direct predictors of academic performance on the remaining variables. This strategy followed the exploratory form of path analysis as described by Asher (1983). To test for mediation, therefore, separate coefficients for each equation was estimated and tested.

In line with exploratory form of path analysis described by Asher (1983), results of the analysis, shown in Table 3, therefore, suggested that teacher expectation was a significant positive predictor of teacher behavior. The model accounted for 28 percent of the variance on teacher behavior, $F (1, 26) = 10.54$, $p < 0.05$

Table 3: Result of simultaneous Regression Analysis on Teacher Behavior and student Behavior

Predictor	Teacher Behavior	Student Behavior
Teacher Expectation (X_1)	0.53*	0.33
Teacher Behavior (X_2)	-	0.50*
Student behavior (X_3)	-	-
Overall r^2	0.28*	0.41*

**p < 0.05*

Findings from multiple-regression analysis on student behavior (shown in Table 3) indicated that teacher behavior was significant positive predictor of student behavior, but teacher expectation was not. The model accounted for 41 percent of the variance on student behavior, $F (2, 25) = 8.65$, $P < 0.05$. These findings provide stronger evidence for indirect effects, suggesting that

teacher expectation may be related to academic performance operating through teacher behavior and student academic behavior.

Summaries of the results of the regression analysis are depicted in Figure 1. The standardized beta weights and coefficients of determination shown are taken from Tables 2 and 3.

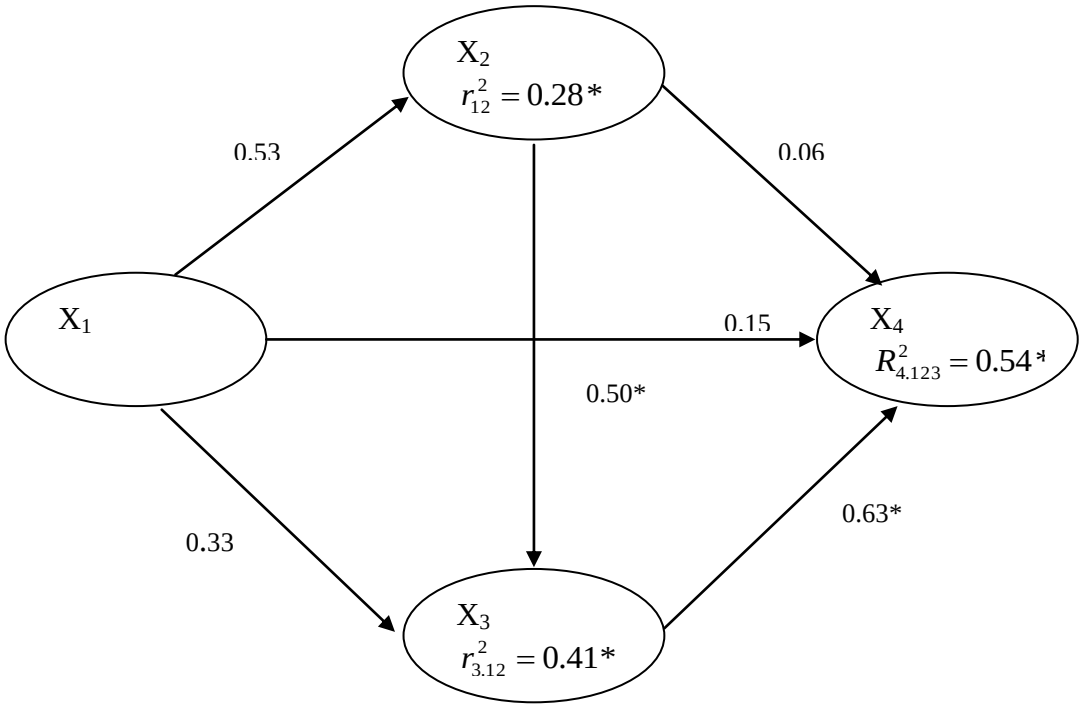

Figure 1: Relations of academic performance (X_4), to teacher expectation (X_1), teacher behavior (X_2), and student academic behavior (X_3). (P < 0 .05 refers to Tables 2 and 3).

Indirect Effects of Teacher Expectation and Teacher Behavior on Academic Performance

Results in Table 4 show that teacher expectation has a significant indirect effect on academic performance via teacher behavior and student behavior (0.17). The indirect effects of teacher expectation on academic performance via teacher behavior (0.03), and student behavior (0.21) are not significant. However, teacher behavior had a significant indirect effect on academic performance via student behavior (0.31).

Table 4: Indirect Effects of Teacher Expectation and Teacher Behavior on Academic Performance

Variable	One Way Indirect Effects		
	Via	Via	Via
Academic Performance	X_2	X_2X3	X_3
Teacher Expectation	0.03	0.17	0.21
Teacher Behavior	-	-	0.31

Discussion

The frontline issue of the present study has been to explore the relationship of teacher expectation and behavior and their influence up on student behavior and academic performance. The discussion regarding this central issue is presented along the following two lines.

Interrelations among Variables

Results in the correlational analysis revealed that academic performance was related significantly and positively to teacher expectation, teacher behavior, and student behavior. Moreover, teacher expectation, teacher behavior, and student behavior were also related significantly and positively to each other. This result was in line with the findings of many researchers

(Brophy, 1983; Good and Brophy, 1978). The relationship between teacher expectations and student performance should be an encouragement to every teacher to know that they can make a difference. By expecting high performance from students, setting high but achievable goals, and positively reinforcing students, high-level learning can be achieved and performance recognized. If teachers do not expect much from their students, their students will not disappoint them. Low expectations are deadly for student performance. An important implication drawn from the current study informs teachers to set goals (for individuals, groups, classrooms, and school) in terms of floors (minimally accepted standards), not ceiling; communicate to students especially to students they perceive as having limited potential that they have the ability to meet those standards.

Direct and Indirect Predictors of Academic Performance

The multiple-regression analysis revealed that teacher expectation was not an independent predictor of academic performance when the potentially confounding effects of teacher behavior and student behavior were statistically controlled. Results of multiple regression analysis further indicate the direction of effect. Indeed, it is reasonable to expect that teacher expectation will have an effect on academic performance through its effect on teacher behavior and student behavior. According to the regression analysis, in the absence of differences regarding to teacher behavior and student behavior, teacher expectations alone may not influence academic performance. Teacher expectation affects teacher and student behaviors, which in turn affects student's academic performance. Teacher behavior and student behavior together act as mediator variables, causing the variations in academic performance depending on how differential expectations are communicated to students.

Similar to the findings of the present study, results of other studies (Brophy and Good, 1970, 1978) indicated that holding certain expectations for student has no significant power to influence their behavior and academic performance. Rather, it is the translation of these expectations into

behavior that influences student's academic behavior and performance. Good and Brophy (1978) emphasized that for teacher expectations to be self-fulfilling they must be translated into behavior that will communicate the expectations to the student and shape behavior in the expected direction. Good and Brophy (1978) further emphasized that teacher expectations about students have no impact on their behavior unless the expectations are communicated to students and ultimately shape behavior. However, their conclusion has already been challenged by some other investigators (Brophy, 1983).

Apparent lack of uniformity in the observed relationships between teacher expectations and student academic performance might arise due to variations in the data analysis method. Brophy(1983) reported that teacher's expectations directly influence how much students perform in their classroom. However, unlike the case in the present study, the possible mediating effects of teacher's behavior and student's academic behavior on student's academic performance were not statistically controlled in Brophy's study. In the current study, teacher's expectation had indirect effect on student's academic performance operating through teacher's behavior and student's academic behavior.

A possible explanation for the result that suggests teacher expectation has an effect on academic performance through its effect on teacher and student behavior probably is related with the proposition that teachers develop differential expectations from their interactions with students. They perceive as having grater or lesser learning potential. Because of these different expectations, the teacher behaves differently toward the low ability and high ability students. This treatment tells students something about how they are expected to behave accordingly. As a result, student's academic performance may follow the direction of the teacher's expectations. In reviewing the research on teacher-student interaction relating to teacher expectation for student achievement, Brophy (1985) pointed out that high achievers are likely to be more responsive in class, to complete their

assignments, and to cooperate more with their teacher than are low achievers. Because teachers are pretty accurate in their assessments of how a student will perform in their classroom, the high-expectation students in a classroom are actually the high achievers and the low-expectation students are actually the low achievers.

One important implication of this study is that teacher expectations directly influence students expectations for their own learning. Students can accurately report differences in the ways that teachers work with high and low achievers. More importantly, teacher practices provide clues about students' ability. In this regard, Good and Brophy (1990) reported that teachers must develop appropriate expectations by establishing goals and moving students along at the pace that they can handle. It is important that teachers monitor their treatment of individual students to ensure that they do not act in a detrimental manner toward certain students. Hence Good and Brophy (1987) explained how teachers can deal with expectations and what they say may apply to Ethiopian context as well. According to Good and Brophy (1987, p. 16) teachers can deal with expectations:

> By keeping a general focus on instruction as their main task, and by training themselves to observe students systematically with an eye toward their present progress and needs, teachers can maintain a generally appropriate orientation to the classroom. They can reinforce this by learning to recognize and evaluate the attitudes and expectations that they form spontaneously in daily interaction with students. This will enable them to correct inaccuracies and to use accurate information in planning individualized treatment.

The fact that teachers can predict how a student will perform in his or her classroom is not necessarily troubling. The prediction becomes a problem when teacher's expectation itself affects the student's academic performance operating through teacher and student behavior. Results of the

current study revealed that student's academic behavior and academic performance are largely responses to what a teacher expects and how these expectations are communicated. Teacher's expectations and treatment of individual students act in the detrimental manner toward student's academic behavior and academic performance. Thus, the findings of the current study advocate the preservice and in-service teacher training programmes should work to raise teachers' awareness of their thinking and behavior with regard to expectations and of the negative effects of differential treatment.

Results of the regression analysis further revealed that teacher treats (wittingly or unwittingly) low expectation students in ways that are likely to inhibit their academic behavior. For example, they give them less time to respond to questions and communicating less warmth and affection, to the students. Teachers also pay less attention to them and conduct less friendly and responsible interactions with them. Not only this, but teachers also give better and less informative feedback to low-expectation students. Low expectations students are also exposed to questions of simple cognitive type during lessons. These kinds of differential treatment significantly inhibit low-expectation students learning. Cross-national studies (Brattesani et al., 1984; Cooper and Tom, 1984; Good, 1987; Marshall and Weinstein, 1984) support this anticipation. Thus, findings obtained in the current study may invite the following comments to be communicated during teacher-student interactions: A classroom teacher must concentrate on extending warmth, friendliness, and encouragement to all students. He/she should also give all students generous amounts of waiting time to formulate their answers during recitations; this will increase participation and improve the quality of responses.

In line with the prediction, the regression analysis indicated that teacher's expectations and behavior indirectly influence student's academic performance via student's behavior. The finding indicates that it is not merely the actions of the teacher, but the ways that students react to teacher's actions (behavior) that also provide a link between teacher expectations and

student academic performance. Then, these findings revealed that the low ability and the high ability students were found to be apt to live up to their teacher's expectations. In this regard, a classroom teacher may come to associate mathematics achievement with high ability students at the expense of the low ability students. Low ability students, on the other hand may feel anxious because they may not want to conform to the belief that low ability students cannot perform well. If the anxiety is high enough, low ability students may try to distance themselves from the importance of learning mathematics by telling themselves that it really did not matter much anyway. Thus, to minimize this stereotype effect teachers should be trained to view intelligence as a continuously changing quality and to move away from holding and communicating rigidly constrained expectations to their students (Marshall and Weinstein, 1984). Given the power of teacher expectations to influence students' learning and their feelings about themselves, providing such training will be essential, perhaps the most essential investment in the Ethiopia Education system.

In conclusion, the study has shown how teacher expectations and behavior influence student's behavior and academic performance. The sizes of the standardized beta coefficients are relatively high suggesting that the model portrayed (Figure 1) incorporates academically relevant type of variables that directly or indirectly influence student's academic behavior and performance.

The results of the present study suggest that teachers have different expectations for the low ability and high ability students. These differing expectations lead to different teacher behaviors that, in turn, affect student behavior and academic performance. The findings of this study have revealed that while teacher expectations do have a considerable impact on student academic performance, they evidently produce effect mainly through their influence upon teacher and student academic behaviors. In this way teacher expectation effects are said to be mediated by teacher and student academic behaviors. The results of the present study suggest that in-service and presence programs work together to raise the teachers awareness about the need for the development of teachers' appropriate expectations of students. Thus, one policy implication of the present study is that polices

designed to influence students academic behavior and performance by influencing teachers awareness of appropriate expectations and behavior are worthwhile.

A closer examination of the findings of the current study further indicates that teachers will have different expectations for their students. Teachers' access to the wide range of academic skill levels in their classroom will naturally encourage a tendency to expect less of some and more of others. Thus teachers may not be able to avoid expectations but they can avoid the effects of their expectation by monitoring the ways they communicate with their students, either during large group discussion or in their interactions with individual students. Below are further practical suggestion to help teacher improve the ways they form and communicate their expectations.

1. use cooperative learning activities whenever possible;
2. develop task structures in which students work on different tasks that can be pursued in different ways;
3. concentrate on extending warmth and encouragement to all students;
4. give all students generous amounts of wait-time to formulate their answers during recitations;
5. give students feedback, stress continuous progress relative to previous levels of mastery, rather than comparisons with other individuals;
6. give students feedback, focus on useful information, do not just evaluation success or failure;
7. set goals in terms of floors and communicate to students that they have to meet those standards; and
8. monitor student progress closely to keep appropriate expectations of individuals' current performance.

Finally, it is worth noting that the study on the relationship between teacher expectations and behavior and their influence upon student academic behavior and academic performance has covered only a limited area of the secondary grade levels. Hence, there is a need for further studies in the future that will focus on similar issues in more detail.

References

Asher, H. (1983). **Causal Modeling**. Beverly Hills, CA: Sage.

Babad, E., Berneieri, F., and Rosenthal, R. (1991). *Students as Judges of Teachers' Verbal and Nonverbal Behavior.* **American Educational Research Journal**, 28, 211-234.

Bennett, R., Rock, D., and Cerullo, F. (1993). *Influence of Behavior Perceptions and Gender on Teachers' Judgments of Students' Academic Skill.* **Journal of Educational Psychology**, 85, 347-356.

Brattesani K., Weinstein, R., and Marshall, H. (1984). *Student Perceptions of differential Teacher Treatment as Moderators of Teacher Expectation Effects.* **Journal of Educational Psychology**, 76, 236-247.

Brophy, J. (1983). *Research on the Self-fulfilling Prophecy and Teacher Expectations.* **Journal of Educational Psychology**, 75, 631-661.

Brophy, J. (1985). *Teacher Student Interaction*. In Dusek, J. (Ed.), **Teacher Expectancies**. Hillsdale, NJ.:Erlbaum.

Brophy, J. and Good, T. (1970). *Teachers' Communication of Differential Expectations for Children's Classroom Performance: Some Behavioral Data*. **Journal of Educational Psychology**, 61, 365-374.

Brophy, J. and Good, T. (1974). **Teacher-Student Relationship**: **Causes and Consequences**. New York: Holt, Rinehart, and Winston.

Brophy, J. and Good, T. (1990). **Educational Psychology: A Realistic Approach** (4th ed.). White Plains, NY: Longman.

Cooper, H., and Good, T. (1983). **Pygmalion Grows up: Studies in the Expectation Communication Process**. New York: Longman Press.

Dembo, M. (1994). **Applying Educational Psychology (5th Ed.).** New York: Longman Publishing Group.

Elashoff, J., and Snow, R. (1971). **Pygmalion Reconsidered**. Worthington, OH: Jones.

Fisher, C. et al. (1978). **Teaching Behaviors, Academic Learning Time, and Student Achievement.** Final Report of Phase III-B, Beginning Teacher Evaluation Study. San Francisco: Far West Laboratory for Educational Research and Development.

Gibson, S., and Dembo, M. (1984). *Teacher Efficacy: A Construct Validation.* **Journal of Educational Psychology**, 76, 569-582.

Goldenberg, C. (1992). *The Limits of Expectations: A Case for Knowledge about Teacher Expectancy Effects.* **American Educational Research Journal**, 29, 517-544.

Good, T. and Brophy, J. (1978). **Looking in Classrooms** (2nd Ed.) New York: Harper and Row.

Good, T. and Brophy, J. (1984). **Teacher Expectations**. New York: Harper and Row.

Good, T. and Brophy, J. (1987). **Looking in Classrooms** (4th ed.). New York: Harper and Row.

Good, T. (1987). *Two Decades of Research on Teacher Expectations: Findings and Future Directions.* **Journal of Teacher Education**, 38, 32-47.

Hall, V., and Merkel, S. (1985). *Teacher Expectancy Effects and Educational Psychology.* In Dusek, J. (Ed.) **Teacher Expectancies**. Hillsdale, NJ: Erlbaum and Associates.

Harter, S. (1981). A *New Self-report Scale of Intrinsic Versus Extrinsic Orientation in the Classroom: Motivational and Informational Components*. **Developmental Psychology**, 17, 300-312.

Jamieson, D., Lydon, J., Stewart, G., and Zanna, M. (1987). P*ygmalion Revisited: New Evidence for Student Expectancy Effects in the Classroom.* **Journal of Educational Psychology,** 79, 461-466.

Marshall, H., and Weinstein, R. (1984). *Classroom Factors Affecting Students' Self-evaluations: An Interaction Model.* **Review of Educational Research**, 54, 301-325.

Meyer, W. (1985). *Summary, Integration, and Perspective*. In Dusek, J. (Ed.), **Teacher Expectancies**. Hillsdale, NJ: Lawrence Erlbauw Associates Publishers.

Raudenbush, S. (1984). *Magnitude of Teacher Expectancy Effects on Pupil IQ as a Function of the Credibility Expectancy Induction: A Synthesis of Findings from 18 Experiments.* **Journal of Educational Psychology**, 76, 85-97.

Reda, D. (2002). *The Role of Students' Attentiveness and Teachers' Preferences for Students in Explaining Relations between Social Behavior and Academic Achievement.* **The Ethiopia Journal of Education**, XXII (1):34-58.

Rosenthal, R. (1985). *From Unconscious Experimenter bias to Teacher Expectancy Effects.* In Dusek, J. (Ed.), **Teacher expectancies**. Hillsdale, NJ: Erlbaum and Associates.

Resenthal, R., and Jacobson, L. (1968). **Pygmalion in the Classroom: Teacher Expectation and Pupils' Intellectual Development**. New York: Holt, Rinehart, and Winston.

Sahw, M., and Wright J. (1967). **Scales of the Measurement of Attitudes**. New York: McGraw-Hill Company.

Weinstein, R., Madision, S., and Kuklinski, M. (1995). *Raising Expectations in Schooling: Obstacles and Opportunities for Change*. **American Educational Research Journal**, 32(1):121-159.

Wentzel, K. (1993). *Does being Good Make the Grade? Social Behavior and Academic Competence in Middle School.* **Journal of Educational Psychology**, 85, 375-364.

Wineburg, S. (1987). *The Self-fulfillment of the Self-fulfilling Prophecy.* **Educational Research**, 16, 28-37.