

Parental Involvement in Student's Academic Performance: Can Parents Shift the Responsibility to Private Tutors?

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Abstract

Parent involvement in education has found to be associated with a variety of positive academic outcomes, including higher academic achievement, lower dropout rates, less retention, positive behavioral outcomes and higher levels of social skills. Thus, Parental involvement in student education is considered strategically important to improve academic achievement. This study explores impact of parental involvement activities on student's academic performance using the data collected from 475 students in grade 6 to grade 11 in three different districts in Sri Lanka in the year of 2017. It was found that parental involvement is directly and indirectly affect performance while private tutoring only partially mediate the relationship. Results revealed by this study can be considered in setting concrete pattern of behavior of parental involvement in order to maximize the performance of students.

Keywords: Parental involvement, private tutoring, student performance, Sri Lanka

1 Introduction

Along with the growing demand for Private Tutoring (PT), researches interest has been directed towards the involvement of parents in their child education. Intensifying the involvement of parents in their children education is viewed as an important strategy to improve the quality of education (Epstein & Salinas, 2004). Parent involvement (PI) in education has found to be associated with a variety of positive academic outcomes, including higher academic achievement, lower dropout rates, fewer retentions, positive behavioral outcomes and higher levels of social skills (Danişman, 2017; Wilder, 2013).

In general, children whose parents are more involved in their education have higher levels of academic performance than children whose parents are involved to a lesser degree (Topor et al., 2010; Feinstein & Symons, 1999). With the increasing focus on higher student achievement, there is an increasing recognition towards sharing the responsibility among school and family as institutions in student education (Epstein and Salinas, 2004). At the same time, theorists have identified the significance of connection between PI and student performance (Grolnick & Slowiaczek, 1994: Lareau, 1987). Early studies focused mainly on the influence of family background on student education and then the attention moved towards the activities of parents directing at the student education. Later PI has been accepted as a solution for most of the problems in education (Fan and Chen, 2001) and the impact of parental involvement on student academic achievement has been recognized by teachers, administrators, and policy-makers as one of the integral parts of educational reforms and initiatives (Graves and Wright, 2011; Topor et al., 2010). Basically, involvement of parents in school education is twofold; home based involvement and school based involvement (Gonzalez-DeHass, Willems, & Holbein, 2005; Hornby & Lafaele, 2011). Consequently, activities of PI vary from the provision of activities to support the learning at home such as, homework supervision, helping hand for learning activities, making learning environment for the child, etc. to develop the formal participation of parents in school activities.

Research on PI shows considerable variation in the involvement of parents to the student learning and this variation is largely due to the socio-economic background of the parents (Boethel, 2003; Grolnick & Slowiaczek, 1994). With the educational level of parent, level of involvement in student's education will vary. Similarly, with the aging of students (move from primary to junior level education and junior to secondary level education) PI in student's education tend to decline as a result of autonomous nature of children and not having sufficient knowledge to back them with high school subjects (Hill & Taylor, 2004; LaBahn, 1995). Finally, most parents believe that their responsibility is to get the children to school and the rest of the role has to be play by children themselves and school authorities (Hornby & Lafaele, 2011).

Even though, the role of parenting in any form is crucial in developing child's overall performance, the lack of parental involvement is evidenced. There are several reasons for this lack of PI in student's education. Firstly, lack of time availability of parents. Currently both parents are occupied and limited hours are available for the involvement in their children's education. At the same time, in single parent family, due to the financial standing parent might not have enough time to spend on student's education. Secondly, it may be because of the lack of understanding of parents on how to get involved in their child's education due to lower educational levels. Thirdly and more importantly, student's partaking of private tutoring may have deteriorated the parenting level (Park et al., 2011; Zhang & Xie, 2015).

When considering the Sri Lankan context, parents and children have an intimate relationship (Pathirana, 2016). Not only the educationists and researchers have identified this importance of Parental Involvement (PI) in



child education, policy makers have also recognized and considered PI by taking initiatives to incorporate such aspects into policy initiatives. However, with the huge growth of private supplementary tutoring, parents tend to be deviated from children's' learning practices. It is common in seining waiting parents near PT classes regardless of the time, early in the morning, late or even in the midnight, in most urban as well as rural areas in Sri Lanka. Parents allow private tutors to outline their children's life pattern. Most of the children are woke up by private tutors. Given this context, it is timely in researching on PT, parenting and performance nexus which is not considered by the academics in the local context so far. Hence, the main objective of this study is to investigate the parenting impact and the mediating role of PT on students' performance.

Having said above, the significance of studying the process of PI are many. Most importantly this can be used to set a concrete behavior pattern for schools and parents to follow when involving in student learning process in order to develop students. Further, traditional notion of PI can be broadened and will help to expand the understanding of school-family relationship. Surprisingly, there is no research focused on PI on student achievement in Sri Lanka. Therefore, the current study attempts to fill the aforementioned gap by examining the impact of various PI activities on student performance.

This paper has the following sections: section 2 which discusses the literature pertaining to the impact of PI on students' academic performance. Section 3 and 4 provides information about the data used in the study and the empirical model considered. Analyzed results are presented and discussed in the section 5. The last section provides the summary and conclusion of the study.

2 Literature review

2.1 Literature on parental involvement

Review of extant literature on PI reveals that operational definition of PI has been defined differently by different authors. According to Stevenson and Baker (1987), PI is defined as parents' participation in school activities. Further, Patall, Cooper, and Robinson (2008), have defined PI as parents assisting children with homework. These definitions primarily focusing on one specific activity of parents relating to student education. However, Bloom (1980), defined PI as parental aspirations for their children's academic achievement and parents' conveyance of such aspirations to their children. Moreover, Grolnick and Slowiaczek (1994) have defined PI as "the dedication of resources by the parent to the child within a given domain". Further, they have considered three dimensions of PI; behaviour, personal involvement, and cognitive/intellectual involvement. Additionally, several theorists have identified specific dimensions of PI (Epstein and Salinas, 2004; Fan and Chen, 2001). Epstein and Salinas (2004) has identified six dimensions of PI; parenting, communicating, volunteering, learning at home, decision making, and collaborating with the community. According to Fan and Chen (2001), PI dimensions included parent-child communication, home supervision, educational aspirations for children, and school contact and participation. Jeynes (2003) has considered parental expectations for the academic success of children, the extent to which parents communicated with their children about school, checking children's homework, attending school functions, and enforcing rules regarding school and leisure activities as dimension of PI. Further, according to Hill and Tyson (2009), dimensions of PI includes communicating with children about school, communicating with school, attending and participating in school activities, involvement at home, parental expectations regarding academic achievement, and parental attitudes toward education. Despite the discordant in above mentioned dimensions on PI, the majority of studies have considered of those parental activities directed towards the student education as dimensions of PI.

2.2 Literature on PI and student academic performance

As discussed previously, it is apparent that there are various studies on PI and students' academic achievement in international literature and those studies have revealed inconsistent results. In an early qualitative study by Lareau (1987), on family-school relationship and social class differences claimed that social class intervene and mediate the family-school relationship. Further, a study by Grolnick and Slowiaczek (1994), revealed that mother behavior and intellectual/cognitive involvement have a significant impact on school performance, and father behavior has a significant impact on school performance. Cabus and Aries (2017) has concluded that parents' involvement in homework, especially mother's involvement increase the academic performance of children. Besides, they comment that the older children in the family receive more parental involvement than the youngest of the family. Moreover, a study by Topor, Keane, Shelton and Calkins (2010) has found a significantly positive relationship between PI and student's academic performance. However, student-teacher relationship and perceived cognitive competence have fully mediated the relationship. Further, findings of Hill and Tyson's (2009) depicted a positive relation between parental involvement and academic achievement. Englund, Luckner, Whaley and Egeland (2004) have claimed that parental involvement has a significant effect on achievement of grade 3 students of low income families. A study by Sui-Chu and Willms (1996) have reported significant positive effects of home discussion on student achievement and significantly negative effects of school communication on student achievement. Further, Domina (2005), has found that attending parent-



teacher conferences and parent-teacher association meetings, volunteering in and outside the classroom activities, checking homework significantly positively associated with the student academic performance. Park, Byun and Kim (2011) have reported a significant positive impact on student's score on Math, and English language from parent-child discussion, monitoring and PT related activities. However, according to Fan and Chen (2001), the relationship between parental involvement and students' academic achievement is moderate. Another study by Driessen, Smit, and Sleegers (2005), on parental involvement of ethnic minority and native Dutch disadvantaged students and their performance, concluded that a relationship cannot demonstrate even though the schools have high percentage of ethnic minority who devote more effort on parental involvement. Further, Lee and Bowen (2006) have reported insignificant effect of PI activities on student's academic achievement. Conversely, Anguiano (2004), reported a significantly negative impact of parent-teacher communication about student progress on high school completion

3 Methods

3.1 Data description

This study has obtained data from a questionnaire which was distributed among the students from grade 6 to 11 and their parents in the districts of Colombo, Galle and Matara. There were 550 respondents from all three districts. The dependent variable academic performance of students was obtained directly from the selected schools which these students attend. The academic performance of students was measured from the average term test score for Mathematics, Science and English. Parental involvement consists of four dimensions which includes; parent child communication, home supervision, educational aspiration, school contact and participation (Fan and Chen, 2001), and intellectual involvement (Grolnick and Slowiaczek, 1994). Questionnaire for the study contained statements relating to above dimensions, reported by both students and parents. Each of the five dimensions of PI is described below. Statements of each dimensions were rated (yes, occasionally, no) by student and parent to whom applicable.

Parent child communication

Questionnaires include four specific statements about parent child communication relating to school activities. Questions about the interest in child school activities, assistance with homework, discuss about school progress and interest towards special events/activities held at school are the areas which the questionnaire covered. Each statement was rated (yes, occasionally, no) by both student and parent.

Home supervision

Under this dimension, five specific questions were asked relating to supervision of child during home. Items included, specific time duration set for doing school work, time allocated to watch television, supportive/obstructive domestic environment to study and the presence of a parent when the child returns from school. Further, whether the child is directly guided or taught by the parent for academic subjects was considered.

Educational aspiration

The questionnaire includes three items in relation to educational aspiration. These activities include, appreciation of academic achievements, educational expectation, and job expectation.

School contact and participation

Interaction of parents is measured using this dimension. The questionnaire consists of three items; parent's communication with the school regarding child's progress and other disciplinary matters (parent-teacher conferences), parent's involvement in school activities, and their attendance to school events.

Intellectual involvement

Parental intellectual involvement in child education was measured using five engagement activities of parents at home. These engagement activities include watching stage dramas/films once a month, buying books for children (not subject related), buy newspapers, reading newspapers, and talk about current events at home (economic, social, etc.)

Control variables considered in the study are age and gender to exhibit demographic status, and household expenditure, father's and mother's education level and employment status of parents to demonstrate the socio-economic status of the student.

3.2 Econometric framework: Mediator testing

Mediator variables are the mechanism through which the independent variable (IV) impacts the dependent variable (DV). A variable is a "mediator" if it accounts for the relation between the predictor and the outcome (Baron & Kenny, 1986). As shown in Figure 1, for the current study, Private Tutoring (PT) is a mediator for the Parental Involvement (PI), Academic Performance (AP) relation.



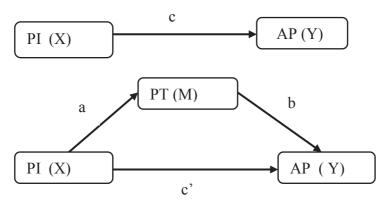


Figure 1: Mediation concept

The simple relationship between X and Y is often referred to as the *total effect* which denotes by c. The total effect c distinguishes from c' is the *direct effect* of X on Y after controlling for M. According to Baron and Kenny (1986), variable M is considered a mediator under the following criteria.

- (1) PI significantly predicts AP (i.e., $c \neq 0$),
- (2) PI significantly predicts PT (i.e., $a \neq 0$), and
- (3) PT significantly predicts AP controlling for PI (i.e., $b \neq 0$).

These criteria are assessed by estimating the following three specifications:

$$\widehat{AP} = \propto_1 + cPI$$

 $\widehat{PT} = \propto_2 + aPI$
 $\widehat{AP} = \propto_3 + c'PI + bPT$

where $^{\alpha}$ is an intercept coefficient. When the effect of PI on AP decreases to zero with the inclusion of PT, perfect mediation is said to have occurred (James & Brett, 1984, call this situation complete mediation) as in Figure 2.

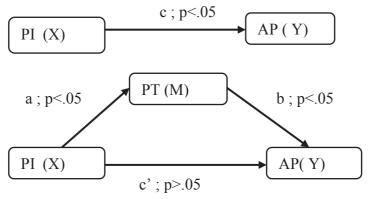


Figure 2: Illustration of full mediation

When the effect of X on Y decreases by a nontrivial amount, but not to zero, partial mediation is said to have occurred.

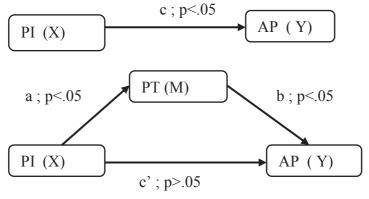


Figure 3: Illustration of partial mediation



In the sense, PT can be considered as a mediator to the extent to which it carries the influence of PI to AP. Then the mediation can be said to occur when (1) the PI significantly affects PT, (2) PI significantly affects the AP in the absence of the mediator, (3) PT has a significant unique effect on the AP, and (4) the effect of PI on the AP shrinks upon the addition of PT to the model. These criteria can be used to informally judge whether or not mediation is occurred.

With reference to Figure 3.3.2, these criteria essentially require paths a, b, and c to be significant and c' to be smaller than c by a nontrivial amount. Mathematicians have shown that (a*b) = c-c when X and M are continuous variables. Thus, if a*b ("the indirect effect") is statistically significant, mediation has occurred (Preacher & Hayes, 2008). To test the significance of a*b; Sobel test can be applied.

Sobel Test: The mediation effects were tested by using the Sobel (1982) test to examine the reduction of the effect of the independent variable on the dependent variable, after accounting for the mediating variables. The Sobel (1982) test conservatively tests this reduction by dividing the effect of the mediator by its standard error and then comparing this term to a standard normal distribution to test for significance (MacKinnon, Lockwood, Hoffman, West, & Sheets, 2002). However, by avoiding the possible weakness of the Sobel test equation, Aroian test equation was utilized to confirm the mediating effect of PT on AP.

As such the Sobel test is conducted by comparing the strength of the indirect effect of X on Y to the point null hypothesis that it equals zero. The *indirect effect* of X on Y in this situation is defined as the product of the $X \rightarrow M$ path (a) and the $M \rightarrow Y$ path (b), or ab. In most situations, ab = (c - c'), where c is the simple (i.e., total) effect of X on Y, not controlling for M, and c' is the $X \rightarrow Y$ path coefficient after the addition of M to the model. Standard errors of a and b are represented, respectively, by sa and sb. The standard error of the indirect effect (sab) is given by Aroian (1944), Mood, Graybill, and Boes (1974), and Sobel (1982) as

$$S_{ab} = \sqrt{b^2} s_a^2 + a^2 s_b^2 + s_a^2 s_b^2$$

 $S_{ab} = \sqrt{b^2} s_a^2 + a^2 s_b^2 + s_a^2 s_b^2$ For the current study the mediation effect of PT was assessed using the Aroian version of Sobel test which suggested in Baron and Kenny (1986) because it does not make the unnecessary assumption that the product of s_a and s_b .

Aroian test equation

$$z = \frac{a * b}{s_{ab}}$$

$$s_{ab} = \sqrt{b^2} s_a^2 + a^2 s_b^2 + s_a^2 s_b^2$$

$$z = a * b / \sqrt{b^2} s_a^2 + a^2 s_b^2 + s_a^2 s_b^2$$

Where

a = raw (unstandardized) regression coefficient for the association between PI and PT.

 s_a = standard error of a.

b = raw coefficient for the association between PT and AP (when the PI is also a predictor of AP).

 s_b = standard error of b.

Results and discussion

Table 1: sample characteristics

	Mean	Median	PT :Yes	PT :No
Score	51	50	53.4	25.2
Trimmed			53.8	24.1
Student's age	13.7	13		
Gender	%	HHexpenditure Rs.		
Male	40.0	5% Trimmed Mean		39096.6
Female	60.0	Median		35500.0

According to demography of the sample as in the Table 1, gender composition has been made as 40 percent males and 60 percent females. Most of the sampled students were at 13 years of age while mid data point is also 13 years. One the grade composition was taken, the highest representation was from grade 11 while the sample representation from grade 9 is slightly low. Average score of three main subjects i.e. mathematics, science and English, was 51 while it was 53 and 25 for PT attendees and non-attendees respectively. As shown in Table 1, a household, on average, spend Rs. 3800 on PT including direct tuition fee and mean HH expenditure when extreme values are excluded was Rs. 39000.



Table 2 : Intensity of private tutoring

No PT classes	Weekly %
0	14.3
1	10.0
2	15.7
3	26.5
4	18.3
5	10.9
6	3.5
7	0.4
8	0.4
Mean	2.8

When considering the number of PT classes that the students attend weekly, majority of the sample attend at least 3 to 4 classes. This as a percentage it is 26.5% and 18.3% respectively which exceeds 1/3 of the sampled population. There is a considerable percentage (14.3%) of students who do not attend PT at all. there are students who attend for 7 (0.4%) or 8 (0.4%) classes weekly as well. Therefore the students who participate for 8 classes weekly will have to attend more than one class for a day. All in all in average a student attends nearly 3 classes weekly.

Table 3: Private tutoring participation and Parent's willingness

	PT parti	PT participation		Parent's willingness	
Grade	Yes	No	Yes	No	
7	73.8	26.2	54.2	45.8	
8	73.4	26.6	58.3	41.7	
9	72.0	28.0	61.1	38.9	
10	90.5	9.5	63.9	36.1	
11	91.0	9.0	63.1	36.9	

Table 3 depicts the information regarding actual and parental willingness of private tutoring participation. As the students get promoted to higher grades the percentage of PT participants increases gradually in all grades. The highest percentage of PT participation is recorded from grade 10 (90.5%) and 11(91%). The students who did not attend for PT eventually joins in to the PT participants group as they get promoted in the system. When considering the parents willingness towards PT participation the percentage gradually grows but not as much as it grows in terms of PT participants. It is clear that there is a certain level of parent's willingness to enroll their children to PT classes but the percentage increases in a very small percentage as their children get promoted from one grade to another. Even though there is a considerable percentage of parents who are not willing to send their children for PT at the earlier grades gradually start to send their children to PT willingly as the children reach grade 10 and 11. The difference between actual participation and willingness to participate varies at all levels. For instance, PT participation rate among grade 7 students is almost 74% while only 54 % of parents willingly send their children. Once grades 10 and 11 are taken, above 90% students do participate PT whereas only 63 % is willingly do it.

Table 4: Parental involvement: descriptive statistics of main dimensions

Variable	Mean	SD	C alpha
Parental Involvement	1.3	0.34	0.85
Parent child communication	1.8	0.36	0.71
Home supervision	1.3	0.04	0.68
Educational aspiration	1.2	0.03	0.73
School contact and participation	1.5	0.79	0.79
Intellectual involvement	0.7	0.47	0.72

Once the descriptive statistics and the reliability of the PI dimensions were taken as in Table 4, Cronbach alpha values showed consistency for all composites recording values greater than 0.7. The reliability of the 30 items on the Parental Involvement Scale and the six items on the each scales were adequate recording Cronbach's alpha values as .71, .68, .73, .79, and .72 respectively). On average, parental involvement is 1.3 which is below the mean (1.3) and the highest score was recorded by parent child communication (1.8)



indicators. School contact and participation as a single score showed a considerable recording 1.5 while intellectual involvement is the least. The Cronbach's alpha for the all 30 items on Parent Involvement was .65, indicate a good internal consistency.

Mediator analysis: Mediating effect was analyzed following the mediation testing procedure established by Baron and Kenny (1986) with aid of Aroian version of Sobel test. Parental Involvement has a positive effect on academic performance as recorded in Table 5 (0.673, p<.001). Private Tuition is significantly related to Parental Involvement at the conventional level of significance (0.55, p<.001). Further it was shown that the direct relationship between Parental Involvement and Academic performance has been deflated by 45 % with the inclusion of Private Tuition as the mediating input variable and yet recorded a statistical significance. Hence, PT partially mediates the PT-AP relationship.

Once the information entered into the Aroian test equation, the calculated indirect effect was (a*b) .370. With the standard error of the indirect effect, 0.1258 (b² = .453; a² = .303; sb² = .0024; sa² = .00189; b² = .453; a² = .303; sb² = .0024; sa² = .00189; b² = .453; a² = .00728, sa² * sb² = .00000454) the calculated z value is 2.94, (ab/S_{ab} = .370/ .1258) confirmed that a mediation effect of Private Tuition is occurred. However, it can be seen that beta weights of both variables in the third model are significant. This clearly shows that Private Tuition is partially mediating the Parental Involvement - Academic performance relation.

Table 5: Mediation effect of private tuition and parental involvement on study performance

Model	IVs	Coe	SE	Adj R ²
Mediation: PT	- Private Tutoring			
model 1	PI on AP	0.673*	0.043	0.45
model 2	PI on PT	0.550*	0.049	0.30
model 3	PI	0.603*	0.062	0.46
	PT	0.127*	0.051	
Mediation: PI- I	Parental Involvement			
model 1	PI on AP	0.673*	0.043	0.45
model 2	Std_H on PI	0.667*	0.063	0.44
model 3	Std_H	0.450*	0.055	0.51
	PI _	0.333*	0.044	

Self_study_hours (Std_H) is positively related to student's academic performance when parental involvement is not included in the equation as in the middle section of the Table 5. Results show that Std_H coefficient in the second model is statistically non zero showing that it has significant impact on parental involvement, (0.667 p< .001). Effect size of the direct impact of Std_H on academic performance in the third model is slightly low but it is significant at 5% level of significance showing that that there is a significance impact of Std_H on student's performance after controlling for parental involvement. Sobel test equation (s_{ab}) calculates the SE for the mediation

$$s_{ab} = \sqrt{.673^2.043_a^2 + .667^2.063_b^2 + .043_a^2.063_b^2}$$

$$= \sqrt{(.453)(.0039) + (.445)(.0018) + (.0039)(.0018)}$$

$$= \sqrt{.00256}$$

$$= .0507$$

as 0.507 and accordingly the z value is 8.85 which exceeds table z at $\alpha_{.05}$ confirming the significant mediation of PI on the direct relation between Std_H and AP. Although Parenting contributes significantly to improve Std_H's impact on academic performance, student's self-study hours (Std_H) itself has a direct strong impact as well. Thus, both self-study hours and Parenting has significantly related to the academic performance of the students. However, the inclusion of parenting as a predictor into the full model has lowered the direct effect of Std_H by about 34%. As such, The Sobel test further confirmed the effect of PI as an independent mediator and accordingly parental involvement partially mediates the relationship between student's self-study hours and academic performance.

4 Conclusions

The main objective of this study is to examine the ability of the private tutoring to explain the relation between parent involvement measured through different aspects and the child's academic performance. Findings of study clearly demonstrated that parental involvement in student performance in terms of academic as well as life skills is an integral part of child's academic life and hence positively relate to increase the academic performance. Further, it was founded that intervening or monitoring activities done by the parents were significantly related to increased quality of the self-studies and thereby positively effect on academic performance paying a significant role regardless of the available alternatives such as PT. Accordingly, though the parents occupy tutorial classes,



mostly as a replacement for their service, PT is not a substitute. This finding is more or less consistent with previous studies (Ireson & Rushforth, 2014; Wider, 2014; Williams et al., 2017). Hence it is implied that the employment of a private tutor may be a small part of the parental role. If the parents calibrate the need of private tutoring correctly with the family's intellectual, cultural capital and resources additional effort and cost which can be considered as repetitive at the current phase may be a waste. These findings specifically suggested that the children's physical and psychological factors that deserve consideration against the contextual factors beforehand the uptake of private tutoring.

Based on the findings several policy suggestions which would be helpful in encouraging six broadly accepted parental involvement practices (Epstine et al., 2002). In this regards, it very essential in raising parental awareness on the important role that parents play in the emotional, behavioral, physical and cognitive development and wellbeing of their children. Many parents are unaware or not rightly aware and therefore neglect the duties and responsibilities and for the most make it neglected by the work related stress. Thus the art of parenting which matches the prevailing socioeconomic status have to further developed and disseminated to the society. Further, schools can increase parental activities boosting parent-school engagement. It is suggestive to enhance volunteering within the school or respective classrooms as teacher assisting, clerical works in the classroom and regular feedback sessions instead of chasing out the parents wo even provide constructive criticism on teaching practices as evidenced by some of the key informants of this study. By joining such type of school engagements, parents will have opportunity observe teaching leaning practices more openly and help to resolve conflicts easily. Further, it will be very effective in developing paths to improve home-school communication. Further, by encouraging parents active interest towards their children's education will be reduce the information gaps between parent and school. It will provide parents a clear understanding on designing parenting levels to give homework support an effective way. Finally, it would be beneficial to children and also to the whole society to form a setup or regulatory mechanism to take the leadership role in promoting and raising parental involvement in not only education but other aspects of child wellbeing which will eventually help the society to achieve wider goals of education minimizing reducing over burden of PT.

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