

Education Pedagogy and ‘Quality’ of Teachers

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Abstract: Education is becoming more teacher centric with emphases on ‘Value Addition’ by teachers. Teachers stand out as the key variable in realizing the complex standards rolled out in education systems. Out of many multiple sources, quality of teachers are of a vital importance in student’s outcomes and achievements.

Keywords: Teachers, quality, student performances, correlation, school.

I. INTRODUCTION

Education is a complex compilation of multiple resources. Teachers stand out as a key variable in realizing the complex standards rolled out in education systems. Education is becoming more teacher centric, so role of teacher and performance of teacher in the learning process becomes vital. It is important to understand the complex and complicated linkages between teacher quality and ultimate performance of the students often it is not clearly understood and linkages may be inconclusive.

Education is goal 4 of the sustainable development goals. There is a strong core emphasis on teachers being the backbone of the education system. Teachers have the capability of molding the future of students and thereby of our nation. While the progress has been by leaps and bounds there is always scope for improvement. Teaching involves ultimate social action and movements according to changes in paradigms.

II. ROLE OF TEACHER QUALITY

Education is teacher centric and therefore linked to teacher’s beliefs. It is important to understand the child pedagogy, to communicate with the needs of children. Professional development of teachers can help in changes in practices of children. The core of education pedagogy is the effort put in by educations and school while multiple sources are influencing the student’s performance, quality of teachers, are a crucial determinant of student’s achievements. It is understood that level of student’s achievement is associated with teachers who employ diverse methodology of teaching. There is consensus globally that quality of teachers is important to quality of education. But there is no consensus in definition of ‘quality’. One, method suggested is the ‘Value added’ approach.

The logic here is that a teacher can be called a ‘good’ quality teacher if the teacher is able to raise academic growth of students from one year to next. Therefore, this links success of a student to the quality of the teacher. Every educational system depends heavily on teachers for the operation and giving direction to education. Teacher’s quality can enhance the performance of students. Direct outcomes are very crucial. That is why emphasis on ‘Value added’ by a teacher is necessary. A good teacher gets highest outcomes achievements from students (after controlling for other determinants of student’s achievements).

The importance of ‘teacher quality is highly recognized, but there is no standard definition of quality. It is a very complex and inconclusive, full of diverse relationships. It is based on many traditional and non-traditional factors. It is different from teacher’s qualifications. It is linked to years of experience, education, preparedness to meet students, professional developments. It is also based on school atmosphere, which is a function of infrastructure, support staff and management. All this can impact student outcomes. Higher student achievement is associated with teachers who use a variety of teaching methods, can establish learning outcomes and build a positive relationship with students, while there is no standard definition it has been seen that certified teachers are more easy with classroom management, effective teaching can face demands of students.

III. RELATIONSHIP BETWEEN TEACHER QUALITY AND STUDENT OUTCOMES

There is a strong correlation between teacher quality and student achievements. This requires multiple dimensions and we have to use multiple variable correlation techniques. One important technique is use of ‘fixed effects’. This ensures that teachers are not randomly distributed across schools or students. To get an accurate analysis we have to specify the

models and look into both fixed effects and random effects. Fixed effects cover the expected effect of the predictor variable on the outcome variable, the random effect refers to whether this effect differs between the two groups.

Analysis of literature review supports various measures of teacher quality impact outcome of students. It doesn't support any one category of teacher quality measure over the other.

An important study in this regard is by M.Azam et al (2014). The study uses 'Value added' analysis—a good teacher gets highest outcomes from students. Hanushek and Rivkin (2010) have also come up with a similar analysis, saying that 'Value added' by a teacher is a statistical measure of the extent to which a teacher is able to improve student learning during the relevant period a 'good quality' teacher is defined as that which gets consistent by higher achievement for students, where students are matched to specific teacher. According to them, teacher quality varies substantially as measured by 'value added' to student's achievements. These variables explain little of the variation in teacher's quality.

Other have used experimental methods like investigating the effect of teacher's initiatives. They have found that student's variable outcomes cannot be predicted by most observable characteristics, but no work directly measures the effectiveness of teachers.

IV. ANALYSIS OF THE LINK AND METHODOLOGY

Teacher quality is important and observed characteristics of teachers, their qualifications, enrollment in teacher training performances, experience are not able to fully explain the effectiveness of teachers.

Let us follow the follow as used in Azam and Kingdon (2014). Assuming linear form and consideration of effect of past inputs depreciating at a fixed rate 'J', present achievements can be expressed as a function of previous achievements and inputs put in during class g

$$y_{izjkt} = (1-\lambda) y_{iz}^{10} + \Gamma_j T_j + \Theta_i + M_i + e_k + \delta + \varepsilon_{izjkt}$$

Where y_{izjkt} is the, score of i^{th} pupil in class 12 in subject z, taught by teacher j in school k at time period t.

y_{iz}^{10} is score of i^{th} student in class 10 in subject z are dummy variables for subjects.

Allowing of the pupil 'fixed effects' means effects of the T. variable are estimated within students, that is to say they are based on the fact that different subjects are taught by different teachers that is they cover all observed and unobserved subject invariant factors, but don't cover inter temporal factors. Advantage of pupil fixed effects is that it can capture observed and unobserved factors, with the assumption that they remain constant across subjects. Also we can't capture teacher and school effects separately so T_j captures within school variables.

V. TEACHERS EFFECTS

To cover for non-random assignment of teachers, we can use subject specific and pupil specific fixed effects. After this a comparison is made of the change in examination marks of students being taught different subjects by different teachers covering the same two year period. This controls all the features and attributes of the students at a point of time.

The variation in the teacher quality and effectiveness is captured by the standard deviation of teacher effects in India. It is 0.379 and covers the impact of spending two years with the teacher. It also shows that family background, income levels are not of great importance. The same students can systematically score significantly different marks given teacher quality. Therefore, it is important and can have a great impact on students. The study covered date from 2006 to 2014 far Indian schools.

Another similar study is based on us date by Hanushek and Rivkin (2010). The study also makes generalizations about teacher effectiveness using 'Value added' measures of Teacher Quality. The study uses an education production function.

$$A_g = QA_{g-1} + T_j + S\Theta + X_r + \varepsilon$$

Where

A_g is achievement of student in class g

A_{g-1} is achievement of student in class $g-1$

S is vector of school and peer variables

X are family inputs

T_j ---Teacher fixed effects----these provide value added of teacher j

Q, Φ & r are unknown effects

ε --- random error terms

The results show that standard deviation of teacher fixed effects expressed in units of student achievements (across usa) is .17 for maths subject. This shows that teacher-inputs are important. Having a teacher at 75th percentile versus having a teacher at 25th percentile leads to learning gains of approximately 0.2 of standard deviation in one year.

Similar results are seen in some other studies of UK and US.

VI. CONCLUSION

Thus teacher Value addition, which is a statistical measure of the extent to which a teacher is able to improve student learning during the period of time they are teaching. It is a predictive of adult outcome and is related to social outcomes. While teacher quality is important, variation in student outcomes cannot be predicted by most observable characteristics. No work directly measures the teacher quality/effectiveness. Certified teachers can manage classroom better and better address the student needs. Therefore, have significant influence on student's test score. They can translate knowledge, skills, attitudes and values and have effective communication skills. Their knowledge of subject and use of strategies is better but on the whole we can say, teacher quality varies substantially as measured by 'Value added' to student achievements and variables explain little of the variation in teachers quality.

REFERENCES

- [1] Bawana J. (2021) Building Teacher in India: Examining Policy frameworks and Implementation Outcomes. Emerald Insight 2021
- [2] Education Report for India-2021
- [3] G.Kingdon G & Azam (2014) Assessing Teacher Quality in India. I Z A DP No 8622 Nov 2014
- [4] Hanushek E (2003) The failure of input based schooling policies. Economic Journal 113 (2003).
- [5] Hanushek E & Rivkin (2010) : Generalizations about using Value Added measures of Teacher Quality. AER May 2010
- [6] P Kumar & Wiseman W A (2021): Teacher Quality and Education Policy in India .Routledge