

Quality of School Education in Odisha: Present Status and Possible Way Forward

By

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Abstract

Considering the level of unemployment and weak entrepreneurship, lack of social accountability, right citizenship and respect for diversity, and absence of ecologically sustainable behaviour at individual and organisational level in the society, it appears that the school education has not been able to meet the demands of the time. Government, as the primary custodian of providing educational services in the country, has done a reasonably good job of providing access to education for all. The weaknesses in the form of poor physical infrastructure, unavailability of trained and committed headmaster and teachers and weak governance and management system result in poor quality of education. In this paper, the scale of school education in Odisha, the learning outcomes realised and the possible strategic change necessary to realise the key objectives of building foundation for livelihood security, social accountability and ecologically sustainable behaviour among citizens are discussed. It is suggested that time has come to bring a paradigm shift in our approach to school education by moving from 'government led' to 'government facilitated and community led' educational system in a phased manner, after building capacity of the communities. It is also suggested to focus community based outside-school-intervention, along with Inside-school-education, especially for children coming from underprivileged sections of the society. Experience of Klorofeel Foundation has been discussed as a possible model for the neglected area of systematic outside-school-intervention as a strategy for effectively and efficiently addressing the problem of high quality and holistic education in schools.

1. Introduction

Considering the importance of education in human development and national development, successive governments have strived to provide universal elementary education in the country. In spite of the gaps, especially for the excluded sections of the Society, the Right to Education (RTE) Act has given a boost in ensuring nearly 100% enrolment in primary schools. However, the major casualty is the quality of education imparted to the children. The primary purpose of this paper is to analyse the state of Elementary Education in Rural Odisha, identify the challenges being faced and suggest implementable strategies to ensure high quality education for the rural and other underprivileged communities. While the focus is Elementary Education (Standards 1 to 8), wherever required, Secondary Education (Standards 9 and 10) will also be discussed. Secondary data from three major sources, i.e., Unified District Information System for Education (UDISE), NITI Aayog and PRATHAM; and primary data from Klorofeel Foundation and author's own experience in the field, are used for this study.

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2. Scale of School Education in Odisha

In Odisha, Sarva Shiksha Abhiyan (SSA), Government of India's flagship programme for achievement of Universalization of Elementary Education (UEE), is being implemented in 30 districts since 2001 with the objectives of having all children of 6-14 years age group in school, universal retention, bridging all gender and social category gaps and focusing on elementary education of satisfactory quality, including education for life (OSEPA, 2019). In this section, the scale of school education, covering details of children, teachers and schools are discussed.

According to UDISE 2017-18, the total enrolment of children in the Schools of Odisha from class I to X was 72,21,218. It comprised 51% boys and 49% girls. The social mix of children was 19% Scheduled Caste (SC), 29% Scheduled Tribe (ST) and rest 52%. 74% children were in Government schools, 8% in Government-aided schools and 18% in Private schools.

During the year, out of a total of 2,84,464 teachers, 73% were in Government and aided schools, and balance 27% worked in private schools.

Similarly, from a total of 67,961 Schools, 90% belonged to state government and aided schools and 10% private, central government and unrecognised schools. There were 53% only-primary (class 1-5), 5% only-upper primary (class 6-8) and 27% primary and upper primary (class 1-8) schools; providing elementary education. In addition, there were 15% secondary schools (class 9-10).

In 2016-17, Net Enrolment Ratio (percentage of children of 'relevant school age' enrolled in 'corresponding school') for Primary, Upper Primary and Secondary schools were respectively 91%, 84% and 72%. While enrolment of students in Elementary (Primary and Upper primary) and Secondary schools were respectively 61.9 lakh and 12.5 lakh; the corresponding shares for government schools had been 80% and 60% respectively. This is in contrast to government having 89.8% of total Elementary schools and 88.3% of total Secondary schools in the state.

In 2016-17, there were no science laboratory in 44.6% of Govt. Secondary Schools. During the same year, there were no Electricity supply, Library Room, Computer Room, and Art & Craft Room in 13.5%, 38.7%, 21% and 37.8% Schools (ibid).

3. Quality of Education

Crosby (n.d.) defined quality as "the conformance to requirements". Accordingly, Quality of School Education has to conform to the requirements of the stakeholders (child, parent, family, community, government and society at large). For this paper, I will use three specific operational requirements of School Education from the perspective of family and larger society. These include

- a. Enabling the child to build a foundations for Livelihood of Choice, in a sustainable and secured manner
- b. Instilling in child a sense of Social Accountability, acceptance of diversity in all forms and good citizenship
- c. Ingraining in child his/her predisposition towards Ecologically sustainable behaviour in all aspects of life

First requirement is very basic in the sense that systematic education must enable a person to get a job or start an enterprise, of his/her choice. It is essential for getting basic needs of life, such as food, clothing, shelter, health services, etc.

Second requirement originates from the fact that a person being a social animal, must support fellow human beings when they are in need of help for living a life of dignity. For example, every citizen comes across people within the family and in the immediate neighbourhood, people, who are excluded from the society. These include, old, women, children, physically and psychologically differently abled, destitute, etc. There are occasions in our daily life when we come across people from underprivileged background. In all such instances, it is expected that an educated person must display good citizenship and socially accountable behaviour, instead of passing buck on others, on the pretext that 'it is not my responsibility'. Further, respecting and accepting diversity of all forms (language, religion, culture, race, caste, creed, gender, region, habits, etc.) are key understandings, that enriches life.

The third requirement is both existential and spiritual in nature. Right education makes us understand that each of us and everything we use, originate from and sink in the earth, whose physical resources (land, water, flora and fauna, soil, minerals, etc.) are limited. Our understanding of interconnected nature of different beings and non-beings help us to choose the options that are closer to ecological sustainability.

On applying the above requirements of education, to the present-day schools of Odisha and the students graduating from them, it does not appear to give us a sense of accomplishment of above objectives. According to the India Skills Report (2021) not even 31 percent of Odisha students have the employable talent for a proper job as they lack essential skills. Odisha does not feature in the Top-10 states from the employability perspective. Odisha contributes to 3.47% of India's population in 2011. In Indian Institute of Technology Joint Entrance Examination (IIT JEE) (Main) in 2019, Odisha had 1.78% (4360 out of 245000) of total qualified candidates from the country (TOI, 2019 & Jagranjosh, 2019). In the same year, in the IIT JEE (Advanced), Odisha had 1.49% (575 out of 38705) of total qualified candidates from the country (TOI, 2019 & IITBBS, 2019). In Union Public Service Commission conducted civil service examination, 2.1% (16 out of 759) of total qualified candidates were from Odisha (New Indian Express, 2019). It shows the level of competitiveness of Odisha students at the national level.

The traditional education system of the state has failed in building required foundational competencies in language, mathematics, natural science, social science, sports, art and culture, and life skills (of health, hygiene, honesty, sincerity and hard work, spirit of enquiry, bias for manual action and self-directed learning) at the School level. It has artificially maintained a high pass-out rate at the school level from enrollment perspective, resulting in high failure and high drop-out rate at the college level, and thus, leading to poor employability. Banerjee (2014) aptly puts it:

Most drops out, rejected and dejected are labeled as failures. This is not just catastrophic for the individual but detrimental to all of us as a society. The tragedy is that even those who get through the system with the right degrees are mere survivors, many of them don't enjoy the journey, and most cannot state how their years of grind enabled them to be responsible citizens in society. There is no point in arming a rural student with a degree that does not

help him find a job in a city nor prepare him to help his father at their farm – we must create an educational system that empowers and increases opportunities rather than constrains or demotivates. The need for society is to create an equitable system that provides education to all, education as a tool for empowerment, not a weapon to judge and cast aside.

Schools rarely have platforms for teaching, learning and practicing socially accountable and ecologically sustainable behaviour. In many schools, such practices, if exists, are rarely beyond fulfilling compliance of government mandates. We are in a situation where citizens expect almost everything as the responsibility of the Government, and certainly not theirs. It appears that through a process of gradual surrender of responsibilities to the government, using push and pull mechanisms, citizens have eventually disempowered themselves.

Given the above context, quality of education has boiled down to inclusiveness (enrolling children from all social strata), achieving grade-specific competencies and organising the factors for enabling these objectives. Within this narrow perspective, findings from two studies, one by NITI Aayog and the other by PRATHAM are discussed next.

3.1 Quality of School Education in Odisha According to NITI Aayog

The School Education Quality Index (SEQI), developed by NITI Aayog, evaluates the performance of Govt. and Govt. Aided schools in States and Union Territories (UTs). It has four Outcomes Indicators such as Learning Outcomes, Access Outcomes, Infrastructure & Facilities for Outcomes, and Equity Outcomes and one Governance Processes indicator that enables the realisation of Outcomes (NITI Aayog, 2019).

For assessing Learning Outcome, it takes into account the average scores in Language and Mathematics in Class 3, Class 5 and Class 8. For assessing Access Outcome, it considers Net Enrolment Ratio (NER) in Elementary and Secondary levels, Transition rate, and Percentage of identified Out-of-School Children mainstreamed in last completed academic year (Class 1 to 8).

For assessing Infrastructure & Facilities for outcome, it takes note of Percentage of schools having Computer-Aided Learning (CAL) at Elementary level, Percentage of Secondary schools with Computer Lab facility, Percentage of schools having book banks/reading rooms/libraries (Class 1 to 12), and Percentage of schools covered by vocational education (Class 9 to 12).

For assessing Equity outcomes, it considers Difference (Absolute value) in performance in language and mathematics for Class 3, Class 5 and Class 8 between Scheduled Caste (SC) and General Category students, between Scheduled Tribe (ST) and General Category students, between students studying in Rural and Urban areas, and between Boys and Girls at Elementary level; Difference (Absolute value) in Transition Rate in all schools from Upper-primary to Secondary level (between SC and General, ST and General, OBC and General, Boys and Girls); Percentage of entitled Children With Special Needs (CWSN) receiving aids and appliances (Class 1 to 10); and Percentage of schools with toilet for girls (Class 1 to 12).

The Governance process is linked to student and teacher attendance, teacher adequacy, administrative adequacy, training, accountability and transparency.

The Teacher adequacy considers percentage of single teacher schools, percentage of schools meeting teacher norms as per RTE, and percentage of secondary schools with teachers for all core subjects.

For Administrative adequacy it takes note of percentage of schools with headmaster, percentage of academic positions filled in training institutes, percentage of teachers trained as per norm and percentage of headmasters gone through leadership training.

For Accountability and Transparency, it considers percent of schools completed self-evaluation and self-development plan, timely release of funds, percentage of new teachers recruited through transparent system, percentage of teachers transferred through transparent system, and percentage of headmasters selected through merit-based system.

Between 2015-16 and 2016-17, in Overall School Performance, Odisha improved from 47.8% to 60.2%, that is 13th to 7th rank in the country, among the 20 large states (Table 1). During this period, in Learning Outcome, the state improved from 53.8% to 57.9%. During the same period, the Access Outcome improved from 65.2% to 69.5%, and the Infrastructure & Facilities Outcome improved from 25.8% to 27.0%. In Equity Outcome Odisha improved from 47.8% to 53.4%. The performance of the Governance process improved from 43.4% to 61.9%.

Table 1: Odisha School Education Quality Index

Category	Domain	Value for 2015-16	Value for 2016-17
Outcome	1.1 Learning Outcome	53.8%	57.9%
	1.2 Access Outcome	65.2%	69.5%
	1.3 Infrastructure & Facilities Outcome	25.8%	27%
	1.4 Equity Outcome	47.8%	53.4%
Governance Process Facilitating Outcome		43.4%	61.9%
Overall Performance		47.8%	60.2%

Source: NITI Aayog, 2019

Learning Outcome

In Overall Learning Outcome, Odisha improved from 53.8% to 57.9% between 2015-16 and 2016-17 (Table 2). In 2016-17, the Average Learning Outcome scores in Class 3 for Language and Mathematics stood at 64 and 62 respectively. Similarly for Class 5, for Language and Mathematics, it stood at 51 and 55 respectively. For Class 8, for Language and Mathematics, it stood at 53 and 44 respectively. There is a consistent decline in learning outcome in Mathematics from Class 3 to Class 8. Learning outcome in Language is also lower in Class 5 and 8 than in Class 3.

Table 2: Learning Outcome of Schools in Odisha

Indicator	Value for 2015-16	Value for 2016-17
Average Score		Class 3 Language: 64, Math: 62 Class 5 Language: 51, Math: 55 Class 8 Language: 53, Math: 44
Overall Score	53.8%	57.9%

Source: NITI Aayog, 2019

Access Outcome

The Overall Access Outcome for students improved from 65.2% to 69.5% between 2015-16 and 2016-17 (Table 3).

The Adjusted Net Enrolment Ratio (NER) at Elementary School Level were 95.1 and 94.7 for 2015-16 and 2016-17 respectively. The corresponding value at the Secondary School Level were 66.4 and 69.8 respectively.

The Transition rate for students from Primary to Upper-Primary level for 2015-16 and 2016-17 were respectively 91.3% and 90.6%. The corresponding value for students from Upper-Primary to Secondary level were respectively 92.8% and 91.3%.

85% and 78% of the identified-Out-of-School-Children were mainstreamed in 2015-16 and 2016-17 respectively.

Table 3: Access Outcome of Schools in Odisha

Indicator	Value for 2015-16	Value for 2016-17
Net Enrolment Ratio	Elementary School: 95.1% Secondary School: 66.4%	Elementary School: 94.7% Secondary School: 69.8%
Transition Rate	Primary to Upper Primary: 91.3% Upper-Primary to Secondary: 92.8%	Primary to Upper Primary: 90.6% Upper-Primary to Secondary: 91.3%
Out-of-School Children Mainstreamed	85%	78%
Overall Score	65.2%	69.5%

Source: NITI Aayog, 2019

Infrastructure & Facilities

The Infrastructure & Facilities, which enable realisation of Outcomes, had improved from 25.8% to 27.0% between 2015-16 and 2016-17 (Table 4).

5.7% and 6.4% of total schools had Computer-Aided Learning (CAL) at Elementary Level in 2015-16 and 2016-17 respectively. 35.4% and 26.6% of the Secondary and Senior Secondary Schools had Computer Lab Facility in 2015-16 and 2016-17 respectively. 92.3% and 93% Schools had Book Banks/Reading Rooms/Library Facility in 2015-16 and 2016-17

respectively. 0.1% of total schools offered vocational education in 2015-16, with none offering in the next year.

Equity Outcome

In Equity Outcome, Odisha improved from 47.8% to 53.4% between 2015-16 and 2016-17 (Table 5).

The difference in Performance in Language, between Scheduled Caste (SC) and General Category Students, widens with increasing class. For Class 3, Class 5 and Class 8, in Language, the differences were 3, 4 and 6 points respectively. However, for Mathematics the differences decreased with increasing class, i.e., 6, 5 and 3 points respectively. The difference in Performance between Schedule Tribe (ST) and General Category Students for Class 3, Class 5 and Class 8 in Language also increased with the class and remained at 8, 9 and 11 points respectively. However, for Mathematics the differences came down with increasing class, i.e., 11, 9 and 6 points respectively. The difference in Performance between Rural and Urban area Students for Class 3, Class 5 and Class 8 in Language were 0, 1 and 1 points respectively. For Mathematics, the differences for higher classes were significant, i.e., 0, 3 and 5 points respectively. The difference in Performance between Boys and Girls for Class 3, Class 5 and Class 8 in Language were 1, 2 and 1 points respectively. For Mathematics, there were no differences in performances in all classes.

Table 4: Infrastructure and Facilities Enabling Outcome of Schools in Odisha

Indicator	Value for 2015-16	Value for 2016-17
Overall	25.8%	27%
Computer Aided Learning for Elementary School	5.7%	6.4%
Computer Lab Facility for Secondary and Senior Secondary School	35.4%	26.6%
Book Banks/Reading Rooms/Library Facility	92.3%	93%
Vocational Education	0.1%	0%
Overall Score	25.8%	27%

Source: NITI Aayog, 2019

The difference in Transition Rate from Upper Primary to Secondary Level for SC and General Category Students were 5.6% and 2.3% respectively for 2015-16 and 2016-17. The difference in Transition Rate from Upper Primary to Secondary Level for SC and General Category Students were 10.6% and 7.8% respectively for 2015-16 and 2016-17. The difference in Transition Rate from Upper Primary to Secondary Level for Other Backward Caste (OBC) and General Category Students were 4.9% and 0% respectively for 2015-16 and 2016-17. The difference in Transition Rate from Upper Primary to Secondary Level for Boys and Girls were 1.2% and 0.9% respectively for 2015-16 and 2016-17. For all sections, the difference in transition rates improved over the year.

In 2015-16 and 2016-17, there were no Child with Special Needs (CWSN) who received any aids and appliances. The Schools with toilets for girls in 2015-16 and 2016-17 were respectively 97.1% and 98.2%.

Governance Process

There were 3.6% and 2.4% schools with single teacher in 2015-16 and 2016-17 respectively (Table 6).

70% and 74.7% Elementary schools could meet teachers' norm as per RTE; 17% and 12.5% Upper-Primary schools could meet Subject-Teacher norm; and 3% and 4% Secondary schools could meet Core Subject-Teacher norm in 2015-16 and 2016-17 respectively. 49.1% and 48.8% of schools had Headmasters in 2015-16 and 2016-17 respectively.

As far as Academic Positions in Training Institutions were concerned, 66.7% and 66.7% at State level and 63.2% and 91% at District level were filled in 2015-16 and 2016-17 respectively. 94.8% and 89.6% of teachers were trained with sanctioned number of days of training in 2015-16 and 2016-17 respectively. 100% of Headmasters were trained in School Leadership Training in above two years.

84% and 82.7% of Schools had completed Self-evaluation and 99.3% and 99% of Schools prepared School Development Plan in 2015-16 and 2016-17 respectively.

Table 5: Equity Outcome of Schools in Odisha

Indicator	Value for 2015-16	Value for 2016-17
Difference in Performance between SC and General Category Students		Class 3: Language: 3, Math: 6 Class 5: Language: 4, Math: 5 Class 8: Language: 6, Math: 3
Difference in Performance Between ST and General Category Students		Class 3: Language: 8, Math: 11 Class 5: Language: 9, Math: 9 Class 8: Language: 11, Math: 6
Difference in Performance between Rural and Urban area Students		Class 3: Language: 0, Math: 0 Class 5: Language: 1, Math: 3 Class 8: Language: 11, Math: 5
Difference in Performance between Boys and Girls		Class 3: Language: 1, Math: 0 Class 5: Language: 2, Math: 0 Class 8: Language: 1, Math: 0
Difference in Transition Rate from Upper Primary to Secondary Level for SC and General Category Students	5.6%	2.3%
Difference in Transition Rate from Upper Primary to Secondary Level for SC and General Category Students	10.6%	7.8%
Difference in Transition Rate from Upper Primary to Secondary Level for OBC and General Category Students	4.9%	0%
Difference in Transition Rate from Upper Primary to Secondary Level for Boys and Girls were 1.2% and 0.9%	1.2%	0.9%
Overall Score	47.8%	53.4%

Source: NITI Aayog, 2019

The State could Release Funds to Schools from Central share and Own share, at the same time, in 17 days & 15 days in 2015-16 and 2016-17 respectively.

While no new Teacher was recruited through a Transparent Online System in 2015-16, everyone was recruited through such a system in 2016-17. Neither any teacher was transferred through a Transparent Online System nor any School Head-Master was recruited through a Merit-based Selection System during the above two years.

Table 6: Governance Process Enabling Outcome of Schools in Odisha

Indicator	Value for 2015-16	Value for 2016-17
Single Teacher Schools	3.6%	2.4%
Elementary Schools meeting Teachers' Norm as per RTE	70%	74.7%
Upper-Primary Schools Meeting Subject-Teacher Norm	17%	12.5%
Secondary Schools with Adequate Teachers in Core Subjects	3%	4%
Schools with Headmaster	49.1%	48.8%
Academic Positions Filled at State Level Academic Training Institutions	66.7%	66.7%
Academic Positions Filled at District Level Academic Training Institutions	63.2%	91%
Teachers Trained with Sanctioned Number of Days of Training	94.8%	89.6%
Headmasters Trained in School Leadership Training	100%	100%
Schools having Completed Self-evaluation	84%	82.7%
Schools having Made School Development Plans	99.3%	99%
Average Time Taken by the State to Release Total Central Share of Funds to Schools	17 days	15 days
Average Time Taken by the State to Release Total State Share of Funds to Schools	17 days	15 days
New Teachers Recruited Through a Transparent Online System	0%	100%
Teachers were Transferred through a Transparent Online System	0%	0%
School Head-Master was Recruited through a Merit-based Selection System	0%	0%
Overall Score	43.4%	61.9%

Source: NITI Aayog, 2019

3.2 Quality of School Education in Odisha According to ASER

The Annual Status of Education Report (ASER, 2018) indicates the quality of school education in rural Odisha. It is based on data collected by the PRATHAM team from a sample of

government and private schools all over the state. In 2018 it covered 812 schools (360 Primary and 452 Upper-Primary). Primary schools have classes from Grade I to Grade IV/V and Upper-Primary have classes from Grade I to Grade VII/VIII.

The proportion of government run Primary schools with student enrolment less than or equal to 60, increased from 38.2% in 2010, through 46.5% in 2014 and 57.8% in 2016 to 60.7% in 2018. The proportion of government run Upper Primary schools (Std I-VII/VIII) with student enrolment less than or equal to 60, increased from 3.9% in 2010, through 4.5% in 2014 and 5.6% in 2016 to 8% in 2018 (ASER 2018, pp184). Hence, while there is overall decline in student enrolment in Government run Primary and Upper Primary Schools, it is sharp in the former.

In the age group of 6-14 years, typical age for Elementary education (Grade I to Grade VIII), 88% of children were enrolled in Government and 10.5% in Private schools, with a drop out of 1.5% children (Table 7). In the age group of 15-16 years, typical age for Secondary education (Grade IX and Grade X), 80.5% children studied in Government and 6.6% in Private schools, with a drop out of 12.7% children. As a proportion of the total number of children in the school (Govt. and Private), there is a decline of 3.1 percentage point of students enrolled in private school for secondary education, vis-a-vis those enrolled in elementary education. Similarly, there is an increase of 3.1 percentage point of students enrolled in Government school for secondary education, vis-a-vis those enrolled in elementary education.

Table 7: Child Enrolment in Schools in Rural Area of Odisha (2018)

Age Group (Year)	Govt. (%)	Private (%)	Other (%)	Not in School (%)	Total (%)
6-14	88	10.5	0.1	1.5	100
7-16	87.3	9.4	0.1	3.2	100
7-10	86	13.1	0.2	0.8	100
11-14	91	6.8	0.1	2.1	100
15-16	80.5	6.6	0.2	12.7	100

Source: ASER, 2018, pp 179

Table 8 indicates the reading levels of the children assessed from Standard I to Standard VIII. 61.3% Grade III students, 41.6% Grade V students and 27.4% Grade VIII students cannot read Standard II level text in Odia.

PRATHAM's reading tool is a progressive tool to measure exclusive categories. Each row shows the variation in children's reading levels within a given grade. For example, among children in Std V, 3.3% cannot even read letters, 9.3% can read letters but not words or higher, 13.5% can read words but not Std I level text or higher, 15.4% can read Std I level text but not Std II level text, and 58.4% can read Std II level text. For each grade, the total of these exclusive categories is 100%.

Table 8: % Children by Grade and Odia Language Reading Level - All children 2018

Standard	Not even letter	Letter	Word	Std I level text	Std II level text	Total
I	39.9	26.7	16.2	7.2	10.1	100
II	18.9	22.2	21.6	13.0	24.3	100
III	8.6	15.7	22.8	14.2	38.7	100
IV	5.9	11.1	17.6	16.2	49.2	100
V	3.3	9.3	13.5	15.4	58.4	100
VI	2.5	6.1	12.6	13.6	65.3	100
VII	1.9	4.6	9.9	14.8	68.9	100
VIII	1.5	3.8	9.4	12.8	72.6	100

Source: ASER, 2018, pp 180

While reading level of private school children have been far higher than that of the Govt. School children in Grades III and V, the gap narrowed down significantly in Grade VIII. It came down from 84% to 10%. Over the 6 years period, the reading level of students increased for both Govt. and Private school children (Table 9).

Table 9: Reading Level Trends Over Time

Students of Different Standards who can read Standard II Text	Type of School/Year	2012	2014	2016	2018
% Children in Std III who can read Std II level text	Govt.	24.7	28.9	31.5	35.0
	Private	53.4	70.8	69.2	64.5
	Govt. + Private	26.5	33.0	35.5	38.7
% Children in Std V who can read Std II level text	Govt.	46.1	49.1	48.8	56.2
	Private	75.7	76.5	81.7	81.1
	Govt. + Private	47.1	50.9	51.6	58.4
% Children in Std VIII who can read Std II level text	Govt.	72.8	74.5	72.0	72.3
	Private	84.5	82.9	85.9	79.8
	Govt. + Private	73.2	74.9	72.6	72.7

Source: ASER, 2018, pp 180

Table 10 indicates the Arithmetic levels of the children assessed from Standard I to Standard VIII. 69.2% Grade III students, 50.1% Grade V students and 37.7% Grade VIII students cannot do Subtraction. 90.6% Grade III students, 74.6% Grade V students and 57.5% Grade VIII students cannot do Division.

PRATHAM's Arithmetic assessment tool is a progressive tool to measure exclusive categories. Each row shows the variation in children's arithmetic skill levels within a given grade. For example, among children in Std V, 3.2% cannot even recognise numbers 1-9, 13.8% can recognise numbers up to 9 but not higher, 33.1% can recognise up to 99 but cannot do Subtraction and Division, 24.5% can do Subtraction but not Division, and 25.4% can do Division. For each grade, the total of these exclusive categories is 100%.

Table 10: % Children by Grade and Arithmetic Level - All children 2018

Standard	Not even 1-9	Recognising Numbers		Subtract	Divide	Total
		1-9	10-99			
I	39.4	32.3	20.9	5.8	1.5	100
II	16.3	32.5	32.2	15.5	3.4	100
III	7.8	24.9	36.5	21.5	9.4	100
IV	4.8	19.2	35.5	24.5	16.1	100
V	3.2	13.8	33.1	24.5	25.4	100
VI	2.6	10.5	31.4	21.9	33.7	100
VII	1.7	8.1	29.7	24.2	36.2	100
VIII	1.0	8.0	28.7	19.8	42.5	100

Source: ASER, 2018, pp 181

The Arithmetic level of private school children have been higher than that of the Govt. School children in all the Standards (III, V and VIII). The gap narrowed marginally at higher class. For Govt. School children the Arithmetic level improved marginally for Standards III and V, but declined for Standard VIII. For Private School, the Arithmetic level for Standard III and V improved between 2012 and 2016 and declined in 2018. Over the 6 years period, the Arithmetic level of students increased for both Govt. and Private school children, in initial classes (Table 11).

Table 11: Arithmetic Level Trends Over Time

Students of Different Standards who can read Standard II Text	Type of School/Year	2012	2014	2016	2018
% Children in Std III who can do at least Subtraction	Govt.	23.9	23.7	29.8	28.3
	Private	59.2	62.9	69.0	49.3
	Govt. + Private	26.2	27.6	33.9	30.9
% Children in Std V who can do Division	Govt.	17.2	19.9	23.8	23.8
	Private	51.0	45.9	57.7	43.2
	Govt. + Private	18.3	21.6	26.6	25.5
% Children in Std VIII who can do Division	Govt.	42.3	37.5	38.7	41.7
	Private	57.0	45.4	63.5	59.4
	Govt. + Private	42.9	37.9	39.6	42.6

Source: ASER, 2018, pp 181

Every subject can be broken into a number of concepts. One possible way to think teaching-learning process as a journey of understanding, practicing, applying and assessing different concepts that constitute a subject. Table 12 indicates the result of assessment of students (capable of doing subtraction) who can solve problems of daily life such as Calculating Time (calculate the duration between occurrence of two events), Applying Unitary Methods (to find out the combination of days and persons required to complete a work), Financial Decision Making (from alternative sale/purchase deals) and Calculating Discount (Sale/Purchase). Assessment has been done for 14 to 16 years age band, which is typical for Grade VIII to Grade X students.

Female students are more capable than the Male students in calculating time difference in all Ages. On an average, compared to Male, Female are 27% better in calculating time. However, only 35.2% Female students from 14-16 years could calculate time.

Male students are more capable than the Female students in applying unitary methods to solve problems, in 14 years and 15 years Age groups. Compared to Female, Male are marginally better in applying unitary method. However, only 33.5% Male students from 14-16 years could Apply Unitary Method.

Male students are more capable than the Female students in Financial Decision Making in 15 year and 16 years Age groups. Compared to Female, Male are marginally better in comparing alternative financial outflow for a particular situation. However, only 28.8% Male students from 14-16 years could do calculation for taking financial decision.

Female students are more capable than the Male students in calculating discounts during sale/purchase for all Ages. However, only 19.6% Female students from 14-16 years could calculate discount.

Table 12: Of All Children Who can do Subtraction but not Division, % Children Who can Correctly Answer by Age and Gender in 2018

Activities	Age	14 Year	15 Year	16 Year	14-16 Year
Calculating Time	Male	28.3	25.2	30.7	27.7
	Female	44.8	26.2	36.2	35.2
	All	37.5	25.8	34.0	32.0
Applying Unitary Method	Male	24.6	35.9	43.7	33.5
	Female	35.5	27.9	32.5	31.7
	All	30.7	31.2	37.0	32.5
Financial Decision Making	Male	25.6	30.3	31.3	28.8
	Female	35.3	16.9	20.1	24.0
	All	31.0	22.5	24.5	26.0
Calculating Discount	Male	13.5	15.5	18.0	15.4
	Female	19.5	18.6	21.1	19.6
	All	16.8	17.3	19.9	17.8

Source: ASER, 2018, pp 182

Table 13 indicates the result of assessment of 14-16 age band students (capable of doing division) who can solve problems of daily life such as Calculating Time, Applying Unitary Methods, Financial Decision Making and Calculating Discount.

Female and Male students are almost equally capable in calculating time difference in all Ages. However, only 47.3% students from 14-16 years could calculate time.

Male students are more capable than the Female students in applying unitary methods to solve problems, in all Age groups. Compared to Female, Male are 20% better in applying unitary methods than the Female students. However, only 62.9% Males students from 14-16 years, who can do Division, could Apply Unitary Method.

Male students are more capable than the Female students in Financial Decision Making in 14 years and 15 years Age groups. As a group in the 14-16 years Age band, they are almost at the

same level of competence. However, only 33.3% students, knowing Division, from 14-16 years could do calculation for taking financial decision.

Male students are more capable than the Female students in calculating discounts during sale/purchase for all Ages. Compared to Female, Male are 37% better in calculating discount than the Female students. However, only 38.6% Males students, who can do Division, from 14-16 years could calculate discount.

Table 13: Of All Children Who can do Division, % Children Who can Correctly Answer by Age and Gender in 2018

Activities	Age	14 Year	15 Year	16 Year	14-16 Year
Calculating Time	Male	47.5	48.5	46.4	47.6
	Female	47.6	43.9	50.8	47.0
	All	47.5	46.1	48.8	47.3
Applying Unitary Method	Male	64.3	63.9	58.5	62.9
	Female	49.0	55.7	52.7	52.2
	All	56.6	59.5	55.4	57.4
Financial Decision Making	Male	36.6	33.6	26.1	33.4
	Female	32.5	31.4	37.4	33.2
	All	34.5	32.4	32.1	33.3
Calculating Discount	Male	29.8	44.5	48.5	38.6
	Female	25.6	28.0	33.4	28.2
	All	27.7	35.8	40.4	33.2

Source: ASER, 2018, pp 182

Between 2010 and 2018, average percent of enrolled children present in Primary Schools on the day of the visit of the PRATHAM assessors increased from 71.9 to 82. Similarly for the Upper Primary Schools, the percentage increased from 72.3 to 80.1. In 2018, the average student absenteeism on the day of the visit was 18% and 19.9% for Primary and Upper Primary Schools respectively (Table 14).

Table 14: Trends Over Time Student and Teacher Attendance on the Day of Visit of PRATHAM Assessor

Description/Year	2010	2014	2016	2018
Number of Primary Schools Visited (Std I-IV/V)	383	378	405	360
% Enrolled Children Present in Primary schools (Average)	71.9	78.5	77.7	82.0
% Teachers Present in Primary schools (Average)	89.1	87.0	90.5	94.4
Number of Upper Primary Schools Visited (Std I-VII/VIII)	358	446	435	452
% Enrolled Children Present in Upper Primary Schools (Average)	72.3	76.3	78.3	80.1
% Teachers Present in Upper Primary Schools (Average)	83.8	82.7	90.0	92.7

Source: ASER, 2018, pp 183

Between 2010 and 2018, average teacher attendance on the day of the visit increased from 89.1% to 94.4% in Primary School and 83.8% to 92.7% in Upper Primary School. In 2018, the average teacher absenteeism on the day of the visit was 5.6% and 7.3% for Primary and Upper Primary Schools respectively.

Between 2010 and 2018, percent of Primary Schools where Std II children were observed sitting with one or more other classes increased from 77 to 79.2. Similarly, during the same period, the percent of Primary Schools where Std IV children were observed sitting with one or more other classes increased from 66.8 to 73.9 (Table 15).

Between 2010 and 2018, percent of Upper Primary Schools where Std II children were observed sitting with one or more other classes increased from 69.4 to 78.3. Similarly, during the same period, the percent of Upper Primary Schools where Std IV children were observed sitting with one or more other classes increased from 58.1 to 66.2.

Such high level of multigrade classes, unless properly designed, can lead to poor quality of teaching and learning.

Table 15: Trends Over Time Multigrade Classes

Description/Year	2010	2014	2016	2018
Number of Primary Schools Visited (Std I-IV/V)	383	378	405	360
% Primary Schools where Std II children were observed sitting with one or more other classes	77.0	81.1	82.9	79.2
% Primary Schools where Std IV children were observed sitting with one or more other classes	66.8	72.8	76.7	73.9
Number of Upper Primary Schools Visited (Std I-VII/VIII)	358	446	435	452
% Upper Primary Schools where Std II children were observed sitting with one or more other classes	69.4	74.8	77.3	78.3
% Upper Primary Schools where Std IV children were observed sitting with one or more other classes	58.1	62.0	65.5	66.2

Source: ASER, 2018, pp 183

As far as basic infrastructure facilities are concerned, in 2018, 17.1% schools did not have drinking water facility, 24.4% schools did not have useable toilet, 30.7% schools without useable girls' toilet, 19.7% schools without library and another 26.4% not using, 43.3% schools without electricity connection and frequent interruption where electricity is connected, and 81.3% schools not having computer and another 12.6% schools not using on the day of the study (Table 16).

Table 16: Trends Over Time Infrastructure Facilities

Facilities	Year	2010	2014	2016	2018
Drinking Water	No facility for drinking water	15.2	9.3	9.2	8.0
	Facility but no drinking water available	14.5	9.3	13.1	9.1
	Drinking water available	70.3	81.4	77.7	82.9
	Total	100	100	100	100
Toilet	No toilet facility	15.5	15.7	6.7	3.0
	Facility but toilet not useable	40.1	21.1	17.8	21.4
	Toilet useable	44.4	63.2	75.5	75.7
	Total	100	100	100	100
Girls' Toilet	No separate provision for girls' toilet	30.3	29.1	17.6	9.6
	Separate provision but locked	19.5	7.9	6.7	5.2
	Separate provision, unlocked but not useable	15.5	9.7	10.0	16.0
	Separate provision, unlocked and useable	34.7	53.3	65.8	69.3
	Total	100	100	100	100
Library	No library	34.7	11.8	17.9	19.7
	Library but no books being used by children on day of visit	18.5	22.6	21.1	26.4
	Library books being used by children on day of visit	46.8	65.6	61.0	54.0
	Total	100	100	100	100
Electricity	Electricity connection	-	-	53.0	56.7
	Of schools with electricity connection, % schools with electricity available on day of visit	-	-	78.0	80.3
Computer	No computer available for children to use	92.9	86.1	84.5	81.3
	Available but not being used by children on day of visit	2.7	8.1	9.1	12.6
	Computer being used by children on day of visit	4.4	5.8	6.4	6.1
	Total	100	100	100	100

Source: ASER, 2018, pp 183

In 2018, 7.3% schools did not have physical education period and no dedicated time allotted, 25% schools did not have physical education teacher, 33.5% schools did not have access to play ground either inside or outside school premises and 29.5% schools did not have any sports equipment (Table 17).

Table 17: Trends Over Time Physical Education and Sports Facilities in Schools in 2018

Description/Year	Std I-IV/V	Std I-VII/ VIII	All schools
No physical education period and no dedicated time allotted	11.3	4.1	7.3
No physical education teacher	29.6	21.5	25.0
No accessible playground (Inside and Outside School)	39.9	28.4	33.5
Availability of any sports equipment	61.3	77.8	70.5

Source: ASER, 2018, pp 184

From the Schools covered during the PRATHAM study in 2018, it is reported that 96.7% Schools were having an SMC. Further, of all the Schools having SMC, 2.9% Schools had a SMC meeting before July and 48.9% had the meeting between July and September (ASER 2018, pp184). Hence, SMC's involvement in governance and management of most of the Schools needs significant improvement.

4. Challenges and Possible Strategies for Imparting High-Quality School Education

Children learn both from inside and outside the school. Teaching inside the school becomes more meaningful, if it is well-integrated with the activities and experiences outside the school. Hence, any educational quality intervention must carefully design and implement the System of Inside School Interventions and System of Outside School Interventions. The Teaching-Learning Processes of both the systems must be mutually reinforcing in their effectiveness and efficiency. Community institutions such as Panchayati Raj Institutions, School Management Committee and Parent-Teacher Association, who are key components of the macro environment, can play vital role in energising both the systems individually and jointly (Figure 1). Other important components of macro environment such as general socio-economic condition and political will; level of community empowerment; access to affordable information and communication technology service, electricity and health service, road connectivity and transport services; market forces in different sectors of economy; intervention of state, market and civil society organisations, and employment opportunities significantly influences the educational quality of the school children.

4.1 System of Inside School Interventions

Key components of the system of Inside School Intervention include Functionaries and facilities inside the school (Head Master, other Teachers and supporting staff, Physical Infrastructure), Teaching-Learning Process, School and Mass Education Department Officials represented by Block Education Officer (BEO) and District Education Officer (DEO), School Management Committee (SMC), Parent-Teacher Association (PTA) and representatives of Panchayati Raj Institutions. A charismatic and dynamic head master, in spite of the weaknesses in other elements, can deliver high quality education to the children. Adequate number of trained and motivated teachers in right subjects (including sports, performing art and fine art) are essential. Students need inspiration and empathy from the teachers.

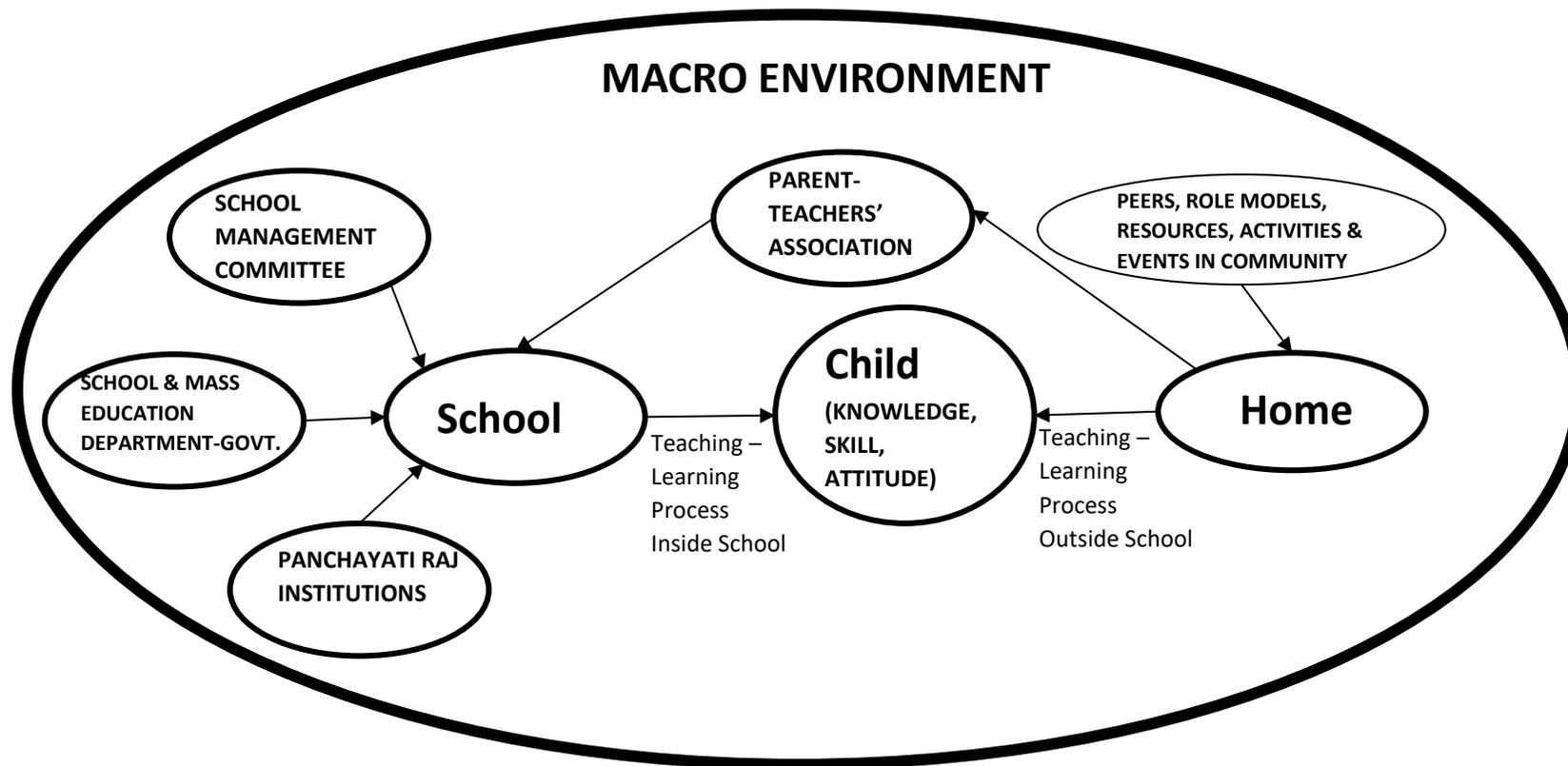


Figure 1: School Education Ecosystem

Enabling physical infrastructures in the form of lighted, ventilated, clean and spacious rooms for all weather conditions are essential. The School needs to have basic teaching aids like library, computer, internet and electricity facilities. Clean and functional toilets, separately for male and female students and male and female teachers, are essential requirements. Sports facilities for boys and girls are equally essential. The Teaching-Learning Process must cover annual academic plan including schedule for classes, examinations, regular feedback of performance, observation of special days, sports and cultural activities. School Management Committee (SMC) must actively participate in preparing and facilitating execution of School Development Plan. Key functionaries of the SMC, Head Master and BEO must work as a team in implementing Annual Academic Plan and School Development Plan.

Ensuring occurrence of regular Class, completing course in time, conducting regular examinations (Formative and Summative), assessing the answer papers and giving feedback to Parents about child's performance in regular Parent-Teacher Meetings, integrating sports, performing art and fine art into regular curriculum, observing important days, exposing children to different competitions and experts from different walks of life, public and private functions and functionaries outside Class Room and School, can lead to realisation of high quality education.

Since most of the schools don't have adequate number of teachers and enabling infrastructure, most or all of the above activities can be undertaken if there is active support from the community, which can be solicited through committed Headmaster, motivated teachers and proactive SMC. It cannot happen unless there is a paradigm shift in the way Schools are managed today. It has to move away from the present 'Government-owned-and-managed' to 'Community-owned-and-managed' mode, with Government working as a facilitator. Headmaster and Teachers have to be accountable to 'the Children through their parents' and 'an empowered and truly representative SMC'. There are communities of varying capacities to take ownership of institutions having high interest for them. Before transferring schools to them, their capacities may be strengthened through active support of government and civil societies. Simultaneously, compensation of teachers may be linked to students' performance. Transparency and fairness in teacher selection, training, performance assessment, reward and transfer must be in place. All these steps will be impossible to execute unless there is right political will and commitment for action.

Probably because of the difficulty in improving quality of school education in all the schools of the state, government has taken the step of starting Adarsh Vidyalayas in each Block, to attend to the needs of few bright students in the Block. However, it will not solve the problem of providing high quality education to all the school going children, for which democratic government is duty bound.

4.2 System of Outside School Interventions

Nigerian Igbo culture believes 'Oran a azunwa', which can be translated in English as, "It takes a village to raise a child". Education, especially at the school level, requires active community involvement since child's learning begins from different dimensions of her/his immediate environment. In such an environment, the parent is the first teacher. And the community influences the child as much as the school. Both parents and community, besides the teacher, are key stakeholders in childhood education.

A child from a socio-economically rich household is likely to attend a high-quality school that is characterized by well qualified and empathetic teachers, joyful teaching process, participation in experiential learning, exposure visits, course completion in time, regular assessment and feedback, career counselling and holistic grooming, and enabling physical, psychological and socio-cultural environment. Simultaneously, at home, such a child gets an enabling learning environment comprising clean, spacious, well-lighted, well-ventilated and protected space for study, parents' guidance, tuition by private tutors, engagement in extracurricular activities, a community of spirited peers and professionals.

However, students from the underprivileged section of our country often gets to experience a low-quality school system in almost all dimensions.

They may be first generation learners and/or parents without adequate capacity to mentor the child in her learning journey. They often lack disturbance-free and comfortable place to study and are faced by other disabling infrastructure facilities. Parents may not understand the value of regular monitoring the progress of their ward or find it difficult to do so, and provide feedback to the teacher. There are occasions where single parent, differently-abled parents, migrant labourers and destitutes will not be in a position to provide enabling learning environment at home. The peer-group may not be highly endowed or self-motivated in studies. They may not have access to many role models from the community. They are challenged by disabling learning environment, improper guidance and weak support from their family and the friend circle. This often leads the youth into life's journey without interest, direction and purpose, resulting in undesirable consequences such as high unemployment rate, psychologically distressed state, and increased involvement in socially undesirable acts and behaviours.

Hence, for building a healthy society and getting rid of economic poverty in one generation, one surest way appears to be provision of high-quality education to every child, including those belonging to underprivileged sections of the society. This calls for actions at the educational ecosystem level involving child, family, community, teachers and school. Besides improving educational quality inside school, the child must get an equally rich enabling learning environment outside school (at home and community space).

Key components of the existing system of Outside School Intervention include Parents and other influential members at home, Physical Infrastructure at home, Peer group in the Community and Larger community with related infrastructure facilities, events and role models. There is possibility of getting rid of these handicaps if the education outside School hour, which has become a private and individual family affair, can be translated to a Community affair, especially for the children from the underprivileged communities.

Klorofeel Foundation has shown the way to improve quality of education of such school going children by focussing its intervention beyond school hours, through dedicated Community Learning Centers, where the mentoring of the child is transferred from parents to trained facilitators from the community. It also has the potential to address some of the weaknesses of the existing school system.

5. Outside School Intervention: Case Study of Community Learning Centres Promoted by Klorofeel Foundation

With an objective of improving the learning level of children from underprivileged community, Klorofeel Foundation has taken up interventions at the community space, which is at the village level. It has set up Learning Centres facilitated by trained local youths (called Saathis). It's a community-based education model that provides a platform and facilitates a child with self-driven, peer-supported and omni-directional learning beyond the school hours. The vision for the community learning centre is to nurture our students to grow up to be socially and ecologically responsible along with being financially independent in one generation.

5.1 The attributes of a Community Learning Centre include

1. Learning Centre is a well-ventilated, well-lighted, clean physical community space, easily accessible to all school-age children in the hamlet/village. It is a hub of education for children outside school.
2. Saathi (educated youth from the habitation) is a facilitator in the learning process of students.
3. Mothers' Group (Mothers of students in a hamlet/village forming a group) plays active role in setting up and running the Learning Centre.
4. Teaching Learning Materials, following government school curriculum, apart from Blackboard, chalk, textbooks, other books, toys, etc. are major part in the learning processes.
5. Assessment is continuous and multidimensional. It is a part of the learning and not a year-end event.
6. Learning Process
 - a. Learning is a by-product of activities, projects and games.
 - b. Curiosity, joy and learning achievements drive the processes rather than fear.
 - c. Learning starts from 'known' to 'unknown', from 'near' to 'far'. Learning is integrated with the local practice, sports, art and culture, knowledge and surrounding world.
 - d. Learning is facilitated through involvement of Hand (physical activity), Heart (involving feelings and empathy) and Head (logically thinking) aimed at holistic development of child.
 - e. Learning facilitates thinking, questioning, decision making, respect for diversity, building perspective, effective communication, and removes fear, prejudice and intolerance.
 - f. The process of effective education includes many a failure. The Saathis play the role to motivate students to explore their limits, introspect, and learn.

Saathis and mothers are integral part of our learning centres. The Saathis are selected from the local area as Teaching and Learning requires empathy and compassion. A person from a different demography (i) may not be available and (ii) may not have the same empathy and understanding of the difficulties that a village youth has for the children of his/her village. In some geography, like tribal area, they form a bridge for their local tribal language and language of the curriculum for the early learners.

Systematic processes are adopted to set up and run community learning centres at the village level which are described below.

- **Formation of Mothers Group:** The functioning of community owned learning centres integrates the learning enablers with the Mothers' Group at the centre. After the geography (gram panchayat, village) for intervention is identified, an expectation sharing session takes place with the mothers of the children, where their active participation in monitoring and decision making for the operation of the centre is briefed. Mothers' Group also takes the responsibility for identifying a location for the Learning Centre. The Group also nominates the candidates (usually an educated girl or woman) to be selected and trained as Saathi (a friend) to facilitate the learning of the children.
- **Selection of Saathis:** The candidates nominated by the Mothers Group are invited to a 3 days selection camp, where they are exposed to the real values and vision of a high-quality education system by being engaged in active discussion and brainstorming sessions. Each candidate to be a potential Saathi is evaluated on the several critical parameters e.g.; empathy, communication skills, emotional maturity, connection with children, interest and ability for action learning, basic subject competency. After the workshop, the merit wise list of Saathis is conveyed to the Mothers' Group for final appointment.
- **Content and Learning:** To ensure the engagement of students to be self-motivated, encouraging and outcome driven, the contents of subjects as per the school syllabus (Standard I-V) is mapped into concepts that are further integrated with activities to habituate the practice of learning by thinking and learning by doing. Education is not the learning of facts but the training of mind to think. Therefore, the activities cover a broad range (game-based learning, context specific learning, experiential learning, etc.) to enable proper understanding of concepts, practicing those concepts and applying them to real life problem solving. The local team pool available local materials and resources to undertake the activities. Contents of other organizations, working in the same space, are also collected to execute the activities. The near-to-far approach as the basis of designing the activities brings a direct scope for children to look for their own surrounding first to explore and absorb the concepts. This contextual approach, unlike the conventional one, has made education further meaningful, experimental and experiential and more importantly joyful.
- **Assessment and Tracking:** The challenge related to improvement in grade specific competencies and other skill sets being so non-uniform and diverse among the children, active tracking through periodic assessment is highly essential. To this purpose, the Saathis are equipped with assessment formats to measure. Alongside, the web-based platform (Igotknowledge) which is being customized to record the weekly progress of the child would serve as a great support. In Mothers' Group meeting, the progress of the child is communicated, along with indication of the steps required to be undertaken by the mothers at home for the desired transformation in behavioural or subject specific competency.

5.2 The Outcomes

Till March 2021 following outcomes have been realised.

- i. 17 Learning Centres catering to 500 students through 27 Saathis in Rayagada district of Odisha.
- ii. 8 Learning Centres catering to 400 students in Jagatsinghpur district of Odisha and 12 Saathis engaging with 700 students in 8 Govt. Schools.
- iii. 8 Learning Centres where the community is paying the Remuneration of Saathis have been started in Korei Block of Jajpur.
- iv. An average growth of 30% in grade specific competencies of the students has been observed in Bissamcuttack Block.
- v. Saathis trained in Innovative Teaching and Learning Methods (TLMs) to make learning experiential and joyful.
- vi. Saathis trained in national assessment tools like Annual Status of Education Report (ASER) and International Common Assessment of Numeracy (ICAN).
- vii. Saathis successfully facilitating multiple learning programmes in the villages like English speech development, Village Biography, etc.
- viii. A simple and precise student centric curriculum covering all concepts developed for Saathis and students

5.3 Sustainability of Learning Centres

The noticeable transformations attained after interventions has been a real motivation for Klorofeel Foundation to extend its further outreach. To make the expansion easier and sustainable, significant participation and contribution by the community-in-need is desired. Institutional sustainability is realised through Mothers' Groups. 90% of the expenditure of running the Learning Centre is spent on the remuneration of Saathis. Presently, financial contribution for running the Centres at Bissamcuttack and Kujanga is realised primarily from the Donor agencies. Parents of the Children bear a part of the expenditure.

In 8 learning centres of Korei Block of Jajpur district, where, apart from direct involvement of community in setting up and managing the centres, the remuneration of the Saathis is also being paid by the community members. Klorofeel Foundation has been providing other support like training and capacity building of the Saathis for facilitating learning at the Centres. For the interventions at Bissamcuttack, a model for meeting the cost of running the centres from the income from the community farm is being piloted.

Given the experience thus far, it is possible to scale up the outside school education intervention through community learning centres.

6. Concluding Remarks

In 2017-18, Odisha had 7.2 million children (48% SC and ST and 52% General Category) from class I to X, with 82% in government and government aided schools and 18% in private schools. There were 2,84,464 teachers, with 73% in Government and aided schools, and 27% in private schools. With an average Student teacher ratio of 25.4, it varied between 28.5 in Govt. and Govt. aided schools and 16.9 in Private schools.

Altogether there were 67,961 Schools, 90% belonged to state government and aided schools and 10% private, central government and unrecognised schools. 90% schools of the state, belonging to government, cater to the needs of 82% students and balance 10% private schools meets the needs of 18% students of the state. In 2016-17, while 11.7% secondary schools were in private, it enrolled 40% of the total students of the state in the appropriate classes, indicating the movement of students away from government schools in higher classes.

Over the years, there is a decline in student enrolment in Government run Primary and Upper Primary Schools, with much sharper decline in former category. It has resulted in closure of a large number of primary schools with consequent problems of access to young children.

From the sample of schools covered under ASER, in the age group of 6-14 years, typical age for Elementary education (Grade I to Grade VIII), 88% of children were enrolled in Government and 10.5% in Private schools, with a drop out of 1.5% children. In the age group of 15-16 years, typical age for Secondary education (Grade IX and Grade X), 80.5% children studied in Government and 6.6% in Private schools, with a drop out of 12.7% children. As a proportion of the total number of children in the school (Govt. and Private), there is a decline of 3.1 percentage point of students enrolled in private school for secondary education, vis-a-vis those enrolled in elementary education. Similarly, there is an increase of 3.1 percentage point of students enrolled in Government school for secondary education, vis-a-vis those enrolled in elementary education.

A large number of schools have poor physical infrastructure. In 2016-17, there were no Science Lab, Electricity service, Library Room, Computer Room, and Art & Craft Room in 44.6%, 13.5%, 38.7%, 21% and 37.8% Schools respectively.

Between 2015-16 and 2016-17, According to NITI Aayog, Odisha ranked 7th in the country with the Overall School Performance index at 60.2%. During this period, in Learning Outcome, Access Outcome, Infrastructure & Facilities Outcome, Equity Outcome and enabling Governance process the state scored 57.9%, 69.5%, 27.0%, 53.4% and 61.9% respectively. It showed an improvement in all the parameters, indicative of the conscious and effective steps in educational quality front by the Government of Odisha.

74.7% Elementary schools could meet teachers' norm as per RTE; 12.5% Upper-Primary schools could meet Subject-Teacher norm; 4% Secondary schools could meet Core Subject-Teacher norm in 2016-17. 48.8% of schools had Headmasters in 2016-17. 66.7% Academic positions at State level and 91% at District level Training Institutions were filled in 2016-17.

While all the new Teachers were recruited through a Transparent Online System in 2016-17. Neither any teacher was transferred through a Transparent Online System nor any School Head-Master was recruited through a Merit-based Selection System during the year.

Granular study done by PRATHAM shows a very disturbing state of the quality of school education in the state.

In 2017-18, 61.3% Grade III students, 41.6% Grade V students and 27.4% Grade VIII students could not read Standard II level text in Odia. 69.1% Grade III students, 50.1% Grade V students and 27.7% Grade VIII students could not do Subtraction. 91.6% Grade III students, 74.6% Grade V students and 57.5% Grade VIII students could not do Division.

Among the students from 14 to 16 Years age group, percentage of children who could calculate time difference, apply unitary methods to solve problems, make simple financial decision, and calculate discounted value during sale/purchase were respectively 32%, 32.5%, 26% and 17.8%.

In 2018, the average student absenteeism, on the day of the visit of the PRATHAM team, was 18% and 19.9% for Primary and Upper Primary Schools respectively. Similarly, the average teacher absenteeism on the day of the visit was 5.6% and 7.3% for Primary and Upper Primary Schools respectively.

Because of the shortage or absence of faculty and/or unavailability of class rooms in many schools, one could observe mixed classes. Between 2010 and 2018, percent of Primary Schools and Upper Primary Schools where, Std II children were observed sitting with one or more other classes, increased from 77% to 79.2% and 69.4% to 78.3% respectively. Similarly, during the same period, the percent of Primary Schools and Upper Primary Schools where, Std IV children were observed sitting with one or more other classes increased from 66.8% to 73.9% and 58.1% to 66.2% respectively. Such high level of multigrade classes, unless properly designed, could lead to poor quality of teaching and learning.

In 2018, 17.1% schools did not have drinking water facility, 24.4% schools did not have useable toilet, 30.7% schools without useable girls' toilet, 19.7% schools without library and another 26.4% not using, 43.3% schools without electricity connection and frequent interruption where electricity is connected, and 81.3% schools not having computer and another 12.6% schools not using on the day of the study.

In 2018, 7.3% schools did not have physical education period and no dedicated time allotted, 25% schools did not have physical education teacher, 33.5% schools did not have access to play ground either inside or outside school premises and 29.5% schools did not have any sports equipment.

Although 96.7% Schools were having an SMC, only 2.9% Schools of them had a SMC meeting before July and 48.9% had the meeting between July and September. Hence, SMC's involvement in governance and management of most of the Schools needs significant improvement.

For improving quality of school education, there is a need for a paradigm shift in our approach to governance and management of schools. Community must be at the centre of ownership and management of schools. School Headmaster and teacher need to be accountable to the parents, through an active Parent-Teacher Association and School Management Committee, with the Government acting as a guide and facilitator for implementing quality processes.

There are communities of varying capacities to take ownership of institutions having high interest for them. Before transferring schools to them, their capacities may be strengthened through active support of government and civil societies. Simultaneously, compensation of teachers may be linked to students' performance. Transparency and fairness in teacher selection, training, performance assessment, reward and transfer must be in place. Needless to say, all these steps can be executed if there is right political will and commitment for action.

Since children spend two-third of their time outside school, community based, outside school intervention may be systematically implemented to complement and supplement the efforts of inside school interventions. Given the understanding, capability and exposure of the parents of the children from the underprivileged background, well-designed outside school intervention will help in achieving educational quality, possibly with much less investment. Drawing from the experiences of Klorofeel Foundation in outside school intervention, the model can be scaled up for imparting holistic education to the children in rural areas and excluded sections of the society.

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