Journal of Educational Planning and Administration

National Institute of
Educational Planning and Administration

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BOOK REVIEW

Literacy and Elementary Education in India:
Emerging Issues and Policy Paradigms

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Madhumita Bandyopadhyay[#]

Introduction

India's quest for universal elementary education began more than seven decades ago with the Constitution mandating the State to adopt the policy of free and compulsory education for all children until they complete the age of fourteen. The task has been by no means easy, beginning with adult literacy rate of only eighteen percent and only one out of four children ever getting enrolled in schools. In this long and still unfinished journey, the first decade of the new millennium witnessed a number of fundamental policy shifts and programme initiatives giving rise to a high sense of optimism for achieving the goal of universal elementary education within a reasonably short period of time. First of these was the launch of the first ever pan-Indian programme of Sarva Shiksha Abhiyan in 2000 with a major share of expenditure to be borne by Government of India. This indeed marked a significant policy change as till then school education including elementary education had essentially been considered as a responsibility of the State Governments with Central assistance provided only for selected schemes. Soon after that, came the landmark event of amending the Constitution to make elementary education a fundamental right of every child, in the year 2002. The enactment of the corresponding legislation towards the end of the decade signified a radical policy shift. The Right of Free and Compulsory Education Act (RTE Act) 2009 (GOI, 2010a) defined the contours of the entitlement of every child that the State was legally bound to provide. Another major move during the decade was the effort to mobilize additional resources for elementary education through a levy of 2% surcharge. Meanwhile, the adult literacy programme was also revamped and re-designated as Sakshar Bharat Abhiyan. There is no doubt that these policy and programme initiatives gave a major fillip to elementary education in the country. Number of schools increased by several lakhs and enrolment in primary stage became nearly universal.

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With these major initiatives, have we got closer to achieving the goal of Universal Elementary Education (UEE)? The indications from the field have been mixed. Even though more children have enrolled in schools, the 2011 census revealed that around 18 per cent of children of the school going age were out of school; around 10 percent of young persons in the age group 15-24 were still illiterate. Official data also show large proportion of children leaving schools without completing the elementary cycle. Further, the central purpose of education is to improve the quality of life of the individual as well as the overall wellbeing of the society. Seen from this angle, we are not in a very comfortable state as the Human Development Report for the year 2019 (UNDP, 2020) places India very low, ranked at 131st among 189 countries[1]. This is in spite of significant improvement in poverty levels during the first decade of the millennium. These indications from the field clearly show that increased enrolment figures do not fully reflect the reality of progress made in education. Also, the national figures often hide the wide diversity across different parts of the country. It is necessary to examine the data more analytically and in a disaggregated manner to understand the dynamics underlying the relatively slow progress of elementary education. Also, policy makers have to look beyond poverty factor to ensure that the right to education guaranteed by the RTE Act 2009 (GOI, 2010a) becomes a reality. In this paper we examine some of these issues and policy propositions that should help in progressing towards the goal of UEE.

Adult Literacy: The Most Basic Indicator of Educational Progress

India has witnessed remarkable improvement in adult literacy rate during the last two decades. The proportion of literate population of seven years and above increased to 74.0 per cent in 2011 from 52.2 per cent in 1991. The last decadal census in 2011 also indicated, for the first time, a reduction in absolute number of illiterates in the country, thus signalling that educational progress has finally caught up with the population increase. Notwithstanding this improvement, India still accounts for around 37 per cent of the total non-literate population of the world.

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[1]   The HDI combines three dimensions: (a) Life expectancy at birth, as an index of population health and longevity; (b) Knowledge and education, as measured by the adult literacy rate (with two-thirds weighting) and the combined *primary*, secondary, and tertiary gross enrolment ratios (with one-third weighting); and (c) Standard of living, as measured by the natural logarithm of gross domestic product per capita at purchasing power parity. The HDI measures the average progress of a country in human development. The Human Poverty Index for developing countries (HPI-1), focuses on the proportion of people below a threshold level in the same dimensions of human development as the HDI, asHPI-1 is composite index measuring deprivations in the three basic dimensions-living a long and healthy life, having access to education, and a decent standard of living. By looking beyond income deprivation, the HPI-1 represents a multi-dimensional alternative to the $1 a day (PPP US$) poverty measure (see UNDP, 2007).

FIGURE 1
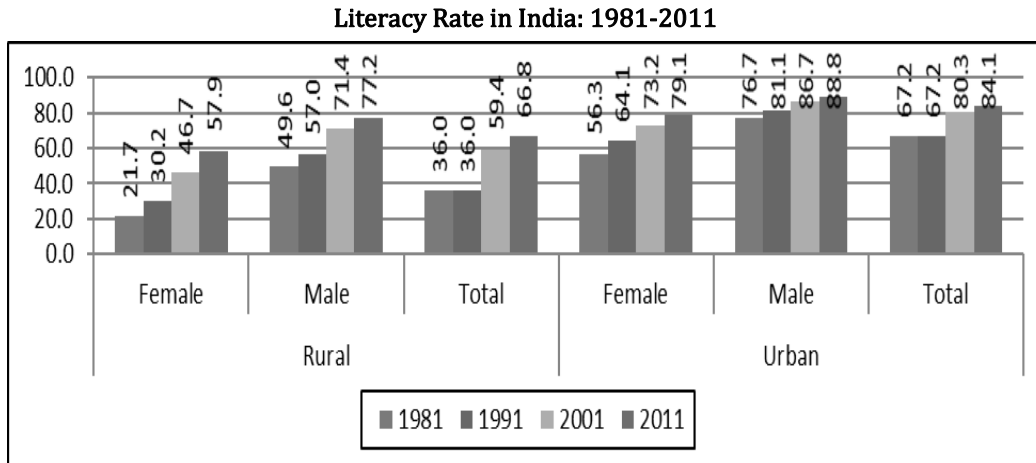
Literacy Rate in India: 1981-2011

Gender Disparities need Special Attention

The last three decades have also witnessed significant growth in female literacy rate (65.5 percent in 2011 as against 54 per cent in 2001). Gender difference in literacy rate narrowed down by 16.6 percentage points and Gender Parity Index gradually increased from 0.53 in 1981 to 0.61 in 1991, to 0.71 in 2001 and 0.97 in 2011. However, male literacy rate is still much higher than that of female literacy rate (Figure 1). According to the 75th National Sample Survey (July, 2017- June, 18) the literacy rate for persons of age 7 years and above is 73.5 and 87.7 in rural and urban areas, respectively (GOI, 2019: 11). Literacy rate of urban men and urban women were found 92.2 and 82.8 per cent whereas for rural men and women, it was 81.5 and 65.0 per cent, which suggests substantial gender gaps in literacy rates according to location. The gender gap in rural is 16.5 while this gender gap is 9.4 in urban areas

FIGURE 2

Comparing Literacy Trajectories in Bangladesh and India
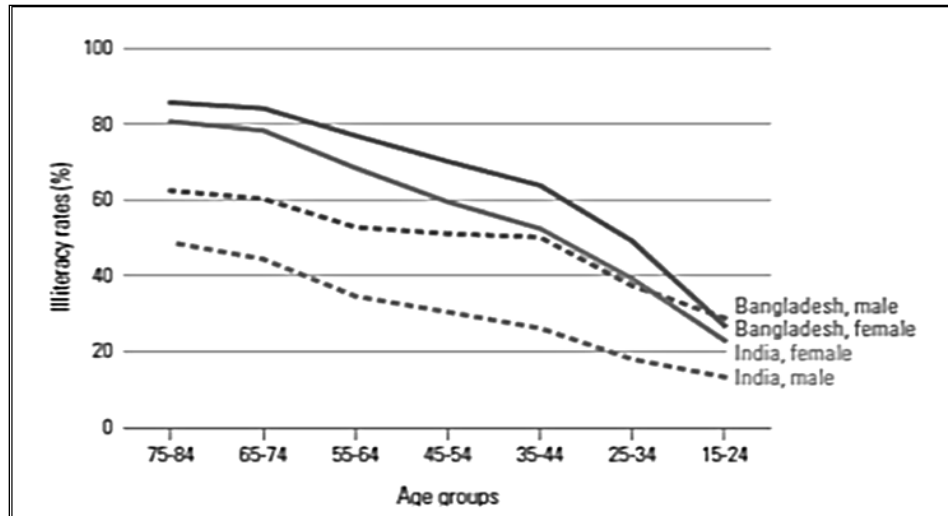
Source: EFA-GMR 2010, 100

This persistence of gender disparity needs more careful consideration with regard to the strategies being adopted in the literacy programmes as well as the attention being paid to elementary education of girls. Comparison of the situation in Bangladesh and India (Figure 2) is quite educative. Gender convergence in adult literacy seems to be moving in different ways in the two countries.

Women aged 25 to 34 in Bangladesh have illiteracy rates 32 per cent higher than men in the same age group. The gap reflects gender disparities that prevailed in the education system when that generation went to school. For 15 to 24-year-olds in Bangladesh today, the gender gap has been eliminated. While India has been narrowing the gap, 15 to 24-year-old females are still about twice as likely to be illiterate as males in that group (UNESCO, 2010: 100).

The comparison also illustrates the need for evolving long term goals as legacy of disadvantages cannot be overcome through short term project interventions, however efficient they might be.

Mother's Literacy has Multiplier Effect

Education of both parents particularly mothers have positive impact on the wellbeing of children and their education. The ASER study (ASER, 2007: 5) found a strong correlation between parental education, particularly the mother's education, and children's education. An educated mother serves as a multiplier when it comes to educating her children.

FIGURE 3

Mother's Educational Level and Infant Mortality Rate
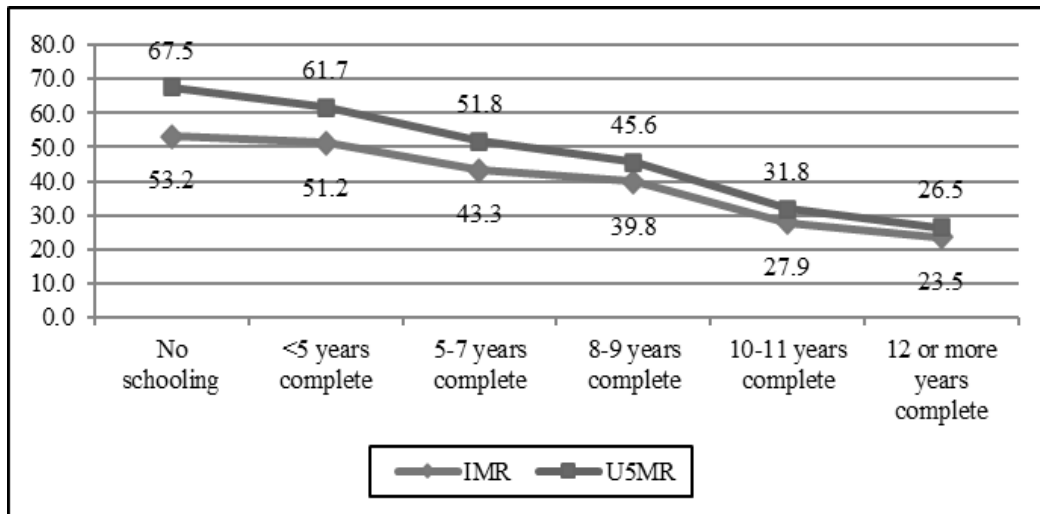
The data from NFHS – IV (IIPS, 2017) has also shown that mother's educational level has considerable impact on infant mortality rate (Figure 3) which is one of the key indicators deciding the overall quality of life and human development of any country. As would be discussed in a later section, attention to child nutrition and wellbeing in early years which have close association with educational level of mothers, make a very significant impact on their children's cognitive development and school learning.

Yet, despite such compelling evidence, neither the National Literacy Mission nor the Integrated Child Development Services (ICDS) have built a strong component of imparting literacy and other life skills among mothers of young children. It should be recognized that children and their wellbeing including education can become a strong rallying point for the families, in general and for the mother, in particular with a truly multiplier effect on improving the educational level of the community.

Focus needed on Traditionally Backward States and Regions

Independent India began its educational journey with a serious handicap as only around 18 per cent adults possessed basic literacy skills. The progress made since then is quite impressive but far from adequate if one were to disaggregate the data in terms of regional and sectional disparities and recognise that several successive generations got the opportunity to pursue school education. Thus, examining literacy status across the country indirectly reflects the efficiency and effectiveness of the school system that has grown multi-fold during the last seven decades. The need therefore is to locate difficult areas and social groups that need special attention. Analysis of the data from 2001 census (Govinda and Biswal, 2005) and now the census 2011 provide considerable insight into this issue.

FIGURE 4

Share of Illiterate Persons and Females in India, 2011

Share of illiterate (Persons) in India 2011

Rest of India (34.11 %)
7.01 %
18.84 %
11.3 %
9.01 %
6.23 %
6.68 %
6.82 %

- Rajasthan   - Uttar Pradesh   - Bihar   - West Bengal
- Madhya Pradesh   - Maharashtra   - Andhra Pradesh   - Rest of of India

Share of illiterate (Females) in India 2011

Rest of India (34.44 %)
7.54 %
18.69 %
10.76 %
8.66 %
6.66 %
6.79 %
6.46 %

- Rajasthan   - Uttar Pradesh   - Bihar   - West Bengal
- Madhya Pradesh   - Maharashtra   - Andhra Pradesh   - Rest of of India

Source: Census of India, 2011

As figure 4 reveals, seven states carry the burden of two thirds of the illiterate population in the country. In fact, 60 percent of the illiterate population is accounted for by the states of Uttar Pradesh, Bihar, West Bengal, Rajasthan, Madhya Pradesh, Maharashtra and Andhra Pradesh which had been among the nine states identified as educationally backward nearly three decades ago. Regional variations in literacy rate become more pronounced when analysis is done at the district level. As per the 2011 Census, most of the low literacy districts (26 districts having literacy rate less than 40 per cent) are located in some of these states. Further, female illiteracy rate is more than 50 per cent (maximum of 81.51 per cent) in 253 districts which together account for 54.51 per cent of female illiterates in the country. The variation in the literacy rate across social groups and household types is also very high. Besides, in most of the states, where female illiteracy rate is high, the percentage share of females in total agricultural labourers is also high.

As mentioned earlier, a bulk of improvement in literacy rates has to come by improved coverage through school education. Yet, literacy programmes which do not focus only on imparting basic literacy skills have a very important role to play. Further, the programmes have to target the locations and sections of the population which are traditionally underserved by school education facilities. As already noted, literacy programmes should have special focus on mothers of school going age children. Unfortunately, adult literacy programmes have slackened significantly during the last ten years raising serious concerns as it could negatively impact the participation of children in schooling.

Tracking Progress in Elementary Education

India's commitment to provide quality education to all its citizens precedes its international commitment to the Dakar Declaration of 2000. Almost all official policy documents, in particular the successive Five-Year Plans at national level, acknowledge the centrality of education for economic growth and human development. The Tenth Five Year Plan document has emphasised the role of education as "a critical input in human resource development and is essential for the country's economic growth" (GoI, 2002: 23). Over a period of time, linkage of education with social wellbeing and human development has also been recognised. The Eleventh Five Year Plan has described education as the "most crucial input for empowering people with skills and knowledge" and it further states, "Improvements in education are not only expected to enhance efficiency but augment the overall quality of life" (GoI, 2008a:1). In recent years, this has given way to adoption of a "rights perspective" as indicated by the declaration of basic education as a fundamental right of every citizen by RTE Act, 2009 (GoI, 2010a).

On the quantitative side, the progress in the last two decades has been very impressive. The number of schools offering primary education has grown manifold; recent official data show that the number is more than a million. The number of schools increased from 230 thousand in 1950-51 to 1.5 million in 2019-20. The GER has grown consistently going beyond 100 in 2005 (Figures 5a and 5b)

FIGURE 5

GER in Primary and Upper Primary Stages

(a) Primary Level
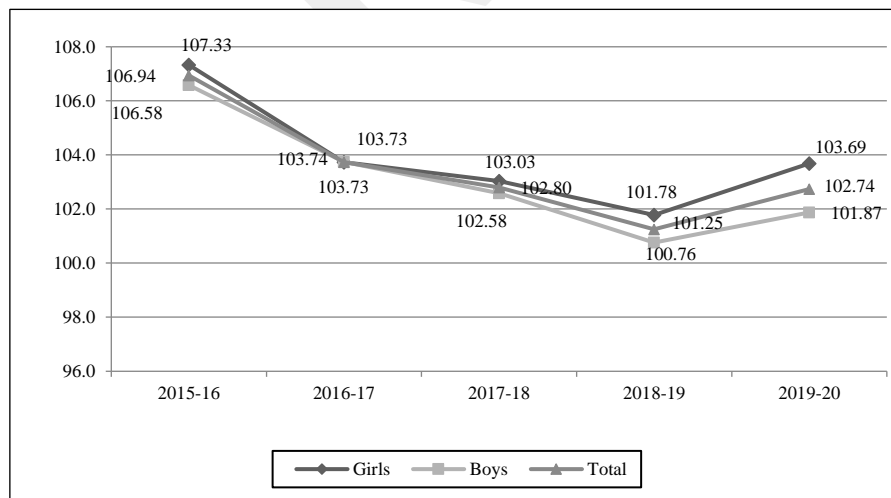
(b) Upper Primary Level
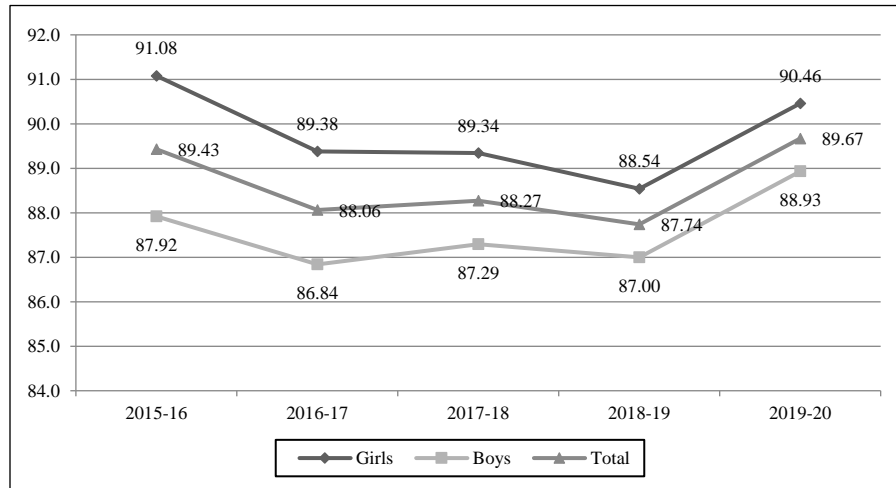
Source: U-DISE: Dashboard, MoE, various years (GoI, 2021)
https://dashboard.udiseplus.gov.in/#/reportDashboard/sReport

However, all sources of data point out that along with gender gap, social gap in school participation is also persisting. Amongst all children, ST girls are the most disadvantaged group as only 53 per cent of ST girls could manage to get enrolled in school.

On The Policy Front: Right of Children to Free and Compulsory Education Act 2009

Enactment of the law making free and compulsory education in the age group 6-14 a fundamental right is indeed a landmark event in the educational history of India. The Act effectively shifts the discourse on universalisation from provision to entitlement; from norm based and supply oriented planning to need based and entitlement-oriented planning. The Act also introduces certain specific features which have the potential to transform the elementary education scene in a significant manner. Amongst many, it lays down the ground rules for treating children in schools with dignity, free from physical and mental harassment; creating all basic facilities particularly with an eye on the girl child and it provides directions for adopting a child friendly pedagogy where children attend schools free from the fear of failing in examinations and being thrown out of the school. Perhaps the most important implication of the Act is that as a law arising out of a Fundamental Right it gives teeth to the concepts of compulsory and free education; it designates the State to shoulder the responsibility and make the commitment justiciable. Notwithstanding many problems in the implementation, one has to accept that the Act opened up a new chapter in the country's pursuit of the goal of universal elementary education, a goal articulated nearly hundred years ago by Gopal Krishna Gokhale during the colonial period.

Dealing with Exclusion from Schooling[2]: Need for Differential Strategies

While the RTE 2009 Act (GoI, 2010a) foresees a situation in which there would be no child left out of the folds of schooling, the reality is that even after a decade of its implementation a very large number of children do not have the privilege of benefiting from school education. But such children who fail to benefit from formal school education do not constitute a monolithic group (Govinda and Bandyopadhyay, 2008). It is obvious that one cannot place all these children in a single basket as failing to benefit from school. Thus, one could safely say that there is more to school participation than merely counting who is in or out of school. Different categories of children who are out of school would possibly be from different socioeconomic background and bear different personal profiles, and interact with the school system in unique fashions. Implementing the provisions of the Act therefore depends on the strategies that we adopt not only for ensuring that all children have access to schooling but also making that access meaningful by ensuring that all of them complete the full cycle of schooling and benefit from it by acquiring the knowledge and skills envisaged in the curriculum.

Access to School

The number of children who have no access to school or those who have never got enrolled in school is falling fast. Thus, the demand for schooling does not seem to be a serious issue anymore. Yet, those who are still unreached by schooling are those who are highly disadvantaged and we need special strategies to bring them into the school system. As it has been discussed earlier, despite considerable improvement in school participation, social group (in particular, SC and ST) and location emerge as the two important predispositions for potential exclusion from schooling. Enrolling children from marginalised groups such as working and street children, children living in urban slums and remote rural habitations and migrant children in school is definitely an uphill task. The Social and Rural Research Institute – Indian Market Research Bureau (SRI-IMRB) survey (2014) reinforces the issue observing that 4.43 percent of out-of-school children were Muslims, almost equal number of ST children (4.20 per cent) and a slightly higher number of SC children (3.24 per cent) were out of school. Altogether, these three marginalized groups accounted for 74.71 percent of all out-of-school children (Table 1).

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2   The concept of 'zones of exclusion' has been developed for studying the phenomenon of primary school participation under the project of the Consortium for Research in Educational Access, Transition and Equity. See for more details. See Keith Lewin, "Improving Access, Equity and Transitions in Education: Creating a Research Agenda," for an elaboration of the conceptual model on 'Zones of Exclusion' (Lewin, 2007)'

TABLE 1

Out-of-School Children by Social Groups

Categories	Out-of-School Children			Percentage of Out-of-School Children		
	Rural	*Urban*	*Total*	*Rural*	*Urban*	*Total*
Survey: 2006						
All Children (6-13 years)	11353597	2106137	13459734	7.80	4.34	6.94
SC Children	2706025	398841	3104866	8.55	6.25	8.17
ST Children	1585833	71145	1656978	10.11	4.21	9.54
Muslim Children	1567717	685535	2253252	12.03	7.17	9.97
Survey: 2014						
All Children (6-13 years)	46,95,518	13,68,711	60,64,229	3.13	2.54	2.97
SC Children	15,91,869	3,74,158	19,66,027	3.43	2.60	3.24
ST Children	9,25,193	82,369	10,07,562	4.80	1.75	4.20
Muslim Children	9,72,727	5,84,373	15,57,100	4.34	4.58	4.43

Source: SRI- IMRB Survey, 2006 & 2014; also referred to in Govinda and Bandyopadhyay (2008).

In addition to above categories, the SRI-IMRB report (2014: 7) estimated that around 28.07 per cent of disabled children are also out of school - which remain much higher than the national average - for whom special measures are needed. This stood at 34.12 per cent in the last round. According to a recent estimation by the UNESCO Institute of Statistics, the number of out of school children in India is as high as 6.5 million which is much higher than the official figures (see UNESCO, Institute for Statistics, http://uis.unesco.org/en/country/in for details).

In order to improve the access, more schools in specific areas need to be opened and several schools with only lower primary classes may need to be upgraded to provide for full cycle of elementary schooling. Such small schools would require even better facilities than the full-fledged primary schools. But, opening of schools has been addressed in an *ad hoc* manner often ending up with appointing a para-teacher teaching in a single room establishment with practically no academic support facilities. The numbers of para teachers and contract teachers are still high in many states. Altogether there are around 15 per cent teachers at the primary and 13 per cent teachers at the upper primary level working on contract basis (GoI, 2021a). If one adopts the entitlement framework, this approach will have to cease. Every school needs to have the minimum infrastructure as well as academic and human resources specified in the RTE Act (GoI, 2010a). The implications will be far reaching. It would necessitate doing a more systematic school mapping exercise so that the access is not just to lower primary classes but also to upper primary classes; further, the location of facilities will have to take proper note of equity considerations that would help overcome both distance and social barriers.

Absenteeism, Failure and Dropout

The journey of a child through the age-grade ladder of the formal school is a complex one punctuated by a number of barriers. While some succeed in traversing the course successfully several seem to lose out at various points and for a variety of reasons. These are summarily discarded as school dropouts.

The annual average dropout rates at elementary level (Table 2 and 3) indicates that there has been a gradual increase in dropout rate for all children, including SCs and STs at the primary level but it has shown a marginally declining trend for all category children for the upper primary stage (Grades I-VIII) though it remained much higher for SC and ST children. Almost all data sources indicate that dropping out of school among older children of 11-14 years is slightly higher compared to those of lower age group and it is a little higher for boys than girls among all categories, SCs and STs at the primary level but for upper primary level more SC girls than boys have dropped out. On the whole, it appears that the development programmes carried out in education have a marginal impact on the participation behaviour of children as the dropout rates have not significantly changed during the last few years.

TABLE 2

Annual Average Dropout Rates (percentage) at Primary Level (I-V)

Year	All Category			ST Children			SC Children		
	Girls	Boys	Total	Girls	Boys	Total	Girls	Boys	Total
2013-14	2.66	3.27	2.98	5.06	5.3	5.18	2.43	2.93	2.69
2014-15	2.70	3.14	2.93	4.34	4.54	4.44	2.85	3.16	3.01
2015-16	2.89	3.31	3.10	4.18	4.29	4.24	3.28	3.62	3.46
2016-17	2.07	2.56	2.32	3.91	3.96	3.94	2.52	2.85	2.68
2017-18	3.33	3.68	3.51	3.48	3.82	3.66	4.73	4.98	4.85
2018-19	4.30	4.59	4.45	5.23	5.72	5.48	4.90	5.41	5.16

Source: U-DISE, Dashboard, various years, MoE

TABLE 3

**Annual Average Dropout Rates (percentage) at Upper Primary Level (VI-VIII)**

Year	All category			ST			SC		
	Girls	Boys	Total	Girls	Boys	Total	Girls	Boys	Total
2013-14	6.02	4.78	5.38	9.59	9.11	9.34	7.59	6.41	6.98
2014-15	5.43	4.14	4.77	9.76	9.53	9.64	6.68	5.49	6.07
2015-16	5.21	4.10	4.64	9.64	9.70	9.67	6.42	5.25	5.82
2016-17	4.09	2.97	3.51	8.60	8.69	8.64	4.50	3.48	3.98
2017-18	5.57	4.49	5.02	6.14	5.95	6.04	7.14	6.07	6.59
2018-19	5.14	4.26	4.68	6.46	6.89	6.69	6.48	5.62	6.04

Source: U-DISE, Dashboard, various years, MoE

Some household surveys have explored the reasons for dropping out of school. Why do children drop out? According to NFHS 2015-16, 43.7 per cent of boys and 24.8 per cent of girls cited 'lack of interest in studies' as the reason for dropping out or currently not attending school (IIPS, 2017, 51). The NSS Survey of 2017-18 (GoI, 2019a) has recorded 'engaged in economic activities' (36.9 per cent) among males and 'engaged in domestic activities' (30.2 per cent) among females as the predominant reasons for dropping out of schools or currently not attending education (GoI, 2019a, 45). However, 'financial constraints' and 'no interest in studies' were also found as the other major reasons among children for not attending education currently. The PROBE Report (1999), also found 'lack of interest in studies' as the main reason for dropping out of school. These groups of reasons essentially signify school related factors acting as barriers for children to learn effectively and to move further in the ladder of education (Govinda and Bandyopadhyay, 2008).

What are these school related factors that cause children to drop out? There are no systematic studies to ascertain the actual nature and extent of causes. However, studies indicate two factors that lead to poor learning among students and eventually forcing them to leave the school. First of these is 'student absenteeism.' Schools do not clearly record absenteeism among students, however a recent study done in the rural areas of Madhya Pradesh and Chhattisgarh revealed high levels of absenteeism among students (Figure 6). It is obvious that any child who remains absent for more than 2-3 days at a stretch is likely to lag behind and eventually fail to follow the transactions in the classroom. Unfortunately, the phenomenon is not even fully recognised as a serious problem, leave alone devising strategies to deal with it. Teachers, parents, and even administrators seem to take it as a normal feature of rural life not realising that such children would sooner or later leave the school unable to benefit from the happenings therein.

FIGURE 6

Percentage of Students absent on the Day of the Visit to Schools (N=88)
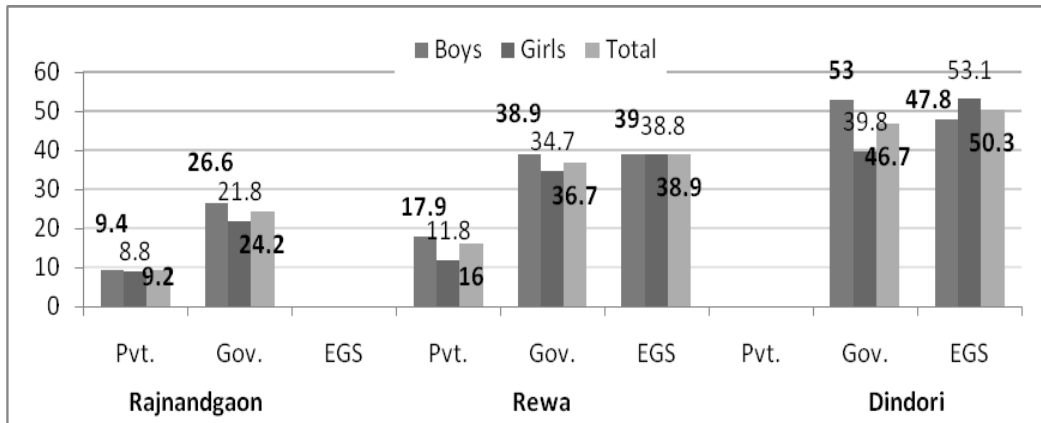
Source: Field Survey, NIEPA-CREATE Project, 2008

A second factor observed in schools, particularly in rural areas is high proportion of repeaters. This is indeed intriguing since most Indian states follow the policy of continuous evaluation accompanied by automatic promotion. The teachers, however, seem to think differently as they tend to interpret the policy as 'no examination' policy. Consequently, children are detained in the same class in the name of failure or repetition which is partly caused by irregular attendance and poor learning levels but mostly due to indifferent attitude of the teachers towards effective learning by all students. The whole issue is further aggravated by substantial levels of teacher absenteeism in many schools. The Right to Education Act attempts to address the latter problem of student failure by insisting on automatic promotion coupled with continuous evaluation and feedback. Unfortunately, educational administrators including school heads invariably tend to place the blame on children and refuse to engage with the underlying causes for the problem. In fact, following the amendment to the Act by the parliament, several State Governments have reintroduced the system of failure and detention.

Every School is Important: Enhanced focus on School Functioning

As the data from official records indicate, the task of getting children into school has been fairly successful in recent years. It is, therefore, necessary that the attention in the coming years has to shift from enrolment to improving the functioning of schools and enhancing the quality of their outcomes. In fact, in the existing framework of SSA two components specially focused on individual schools, namely, school specific grants provided to each school and individual teacher grant (Currently, under the existing programme, Samagra Shiksha, although school grant is still being provided to each school the provisioning of teacher grant has been discontinued). However, these components have remained largely isolated from the overall concern for improving quality of every school in a holistic manner. It is worthwhile, that these interlinked investments in schools are viewed from a long-term perspective of

improving the quality of every school. The goal has to be that all schools change – change for better.

The RTE Act 2009 (GoI, 2010a) precisely suggests for such an approach by mandating that every school must have a School Management Committee. The Act also specifies that financial grants to any of the schools supported or run by the Government would be contingent upon the proposals made through a School Development Plan (SDP). Individually viewed, the funds transferred through this process to the school level may not be very large, but taken together the investment over the years is substantial. The Act also assigns the responsibility of monitoring the functioning of the schools to the School Management Committee (SMC) and the local authority, implying that the local community would play an important role in developing the school and ensuring that the school functions effectively. According to U-DISE 2016-17, around 23 percent schools, functioning with an elementary section in it, didn't have any SMC. Further, bringing the focus on individual school, the Act mandates that teacher-pupil ratio be maintained as specified in the schedule in every school. This is in contrast to the practice of computing the ratio for whole district or state, masking the real imbalances that characterise teacher provision in individual schools. There are still many schools which are functioning with high teacher pupil ratio and high student classroom ratio. It is also a matter of concern that, there are still many schools where SMCs have been formed only on paper. These SMCs are neither functioning effectively nor preparing school development plans though it is mandatory as per the RTE Act, 2009 (GoI 2010a).

Slow Progress among the Marginalised: Need to Prioritise Equity

Indian Constitution prohibits any kind of discrimination based on caste, class or creed and provides special positive discrimination measures to offset the social, education and economic disadvantage historically inherited by certain groups. Yet even though considerable progress has been made during the post-independence period, deep seated caste-based prejudices continue to influence practices in different spheres of life including education. Macro level statistics clearly indicate that belonging to a scheduled caste or tribe lowers prospects of school participation. Being a girl and living in a rural area brings a further layer of disadvantage. Distance to school is also a determinant of participation by ethnic minorities. Children from scheduled tribes, many of them living in dispersed communities in remote areas, face very long treks to schools (Wu et al, 2007). In addition, field studies also point to the fact that several school factors add to the social dynamics that continue to thwart effective participation of children from marginalised groups as gender and social hierarchy in Indian society seem to determine the access and participation of children in educational institutions (Ramachandran, 2002; Jha and Jhingran, 2005). Most often, gender, caste, poverty, and location act as nesting factors that result in exclusion of children from school (Govinda and Bandyopadhyay, 2008). Some researchers (for details see Govinda and Bandyopadhyay, 2008; Kaul, 2001) have also examined the relationship between social background and educational marginalisation and the interventions that could reduce the social gaps in schooling.

Studies clearly point out that further progress in UEE would depend to a great extent on how we address the issue of social disparities in educational access and remove social and cultural barriers to effective participation in the schools. The implication of this assertion is that the currently adopted generic strategies of promoting access and participation for all, needs to be replaced by a more nuanced and differentiated strategy that directly targets the

marginalised groups. This indeed seems to have been recognised at the policy level. For instance, the Annual Report of MHRD in 2006-07 (GoI, 2008c: 24) asserted that "Sarva Shiksha Abhiyan resolutely targets geographical areas in districts and blocks with predominance of SC, ST, OBC and Minority population in the matter of allocation of funds and school infrastructure to promote education of those who have been deprived of educational facilities so far." However, the programme implementation in different states does not effectively reflect this perspective. It is obvious that without a proactive stance by State governments, it may be difficult to address the issue.

It is further observed that exclusion of the marginalised groups happens also due to in-school barriers and discrimination which impacts retention and learning. Untouchability, isolation and different cultural and language background impact the schooling of dalits, tribals and children of minority groups. "Issues of stereotyping and stigmatizing children from certain communities as being difficult to retain within the system persist" (GoI, 2010b, 20). This demands innovative actions at the field level for appropriately sensitising teachers and school authorities and this should also become part of the monitoring framework.

Addressing Imbalances and Inequities in Teacher Provision

Fast expansion of institutional facilities has resulted in tremendous increase in the demand for qualified teachers. Lowering of pupil teacher ratio under the RTE Act is bound to add further pressure on the teacher supply front which is not uniform across different states. Some states like Bihar, Uttar Pradesh, West Bengal, Assam and Orissa do not have adequate number of teachers, even with the ratio of 1:40, and would therefore demand additional teachers in a very large number. Some other, especially the East and the North Eastern States, face a serious situation with a huge proportion of teachers without any professional training. The recent data (GoI, 2020a) indicates that around 20 percent teachers are yet to receive any professional training. Added to this is the fact that several states have created many small schools with single teachers; equipping them with minimum national norms of at least two teachers per school would demand more teachers.

According to the recent estimates, 10,22,195 posts of elementary school teachers out of a total sanctioned strength of 51,62,569 are vacant in the country with large inter-state variations (Financial Express, 2020). There are also large inter-state and intra-state variations, especially between rural and urban schools, in the deployment of teachers. Efforts made to undertake redeployment are often thwarted due to interference from influential quarters or due to pressure of teachers' unions or due to lack of rationale and transparency in the exercise. The first step to rectify the situation is to adopt a well-designed programme of redeployment of teachers within each State coupled with quick recruitment of teachers for the existing vacancies. However, this estimate may undergo a change once the States undertake the redeployment process and calculate the exact requirement of additional teachers for each school.

The problem of teacher supply is compounded by the imbalances in the capacity of teacher professional training in different states. While some states lack adequate capacity, some others have the problem of official abandonment of teacher professional training requirement for becoming elementary school teachers. While oversupply in some parts of the country can be attributed to market forces, the state has to bear the blame for not creating adequate capacity. The issue of teacher supply is not only of numbers, it also has to deal with

the quality of teachers and the potential of the policy to build a strong cadre of professionally equipped teachers. Unfortunately, many states in their search for the means of reducing the financial burden on the state exchequer, have recruited teachers on contract basis. Though this may reduce the cost, it would also invariably dilute the quality. Many of these are the states which are also facing the problem of low enrolment, high repetition and dropout in addition to poor teacher supply and high PTR.

Another major issue in teacher supply relates to the existence of small schools with sub-minimal facilities. According to U-DISE 2017-18, nearly ten percent of primary schools are single teacher schools (GoI, 2019b). The number will swell further if we add the schools with two or three teachers for a school teaching grades I to V. Consequently, multi-grade situation prevails in all these schools though teacher training programmes, unfortunately, have continued to be oriented towards mono-grade teaching situations. The teaching learning materials used in these small schools are also not geared to teaching in multi-age and multi-grade settings. The situation obviously demands special efforts to ensure that teachers working in these schools receive proper orientation on the pedagogy of teaching in such contexts and conditions. In fact, additional academic infrastructure has to be provided for schools and teachers to function effectively in such conditions. In short, the situation demands major structural reform in the teacher recruitment and teacher education systems if good quality teaching is to be made accessible to all children.

Engaging with the Private Providers: Need for a New Perspective

The recent phenomenon of mushrooming of private schools has been well documented by several studies. As per U-DISE (2019-20), 36.3 per cent of all primary school enrolments and 32.1 per cent of all upper primary enrolments are in private unaided schools (GoI, 2020a). Karthik Muralidharan and Michael Kremer (2007) conducted a survey of rural primary schools in India in 2003 and found that 28per cent of the population of rural India were accessing fee-charging private schools in the same village. Many other researchers (Tilak and Sudarshan, 2001; Kingdon, 2005; Juneja, 2005; De et al, 2000) have also found increasing participation of private providers in provisioning schooling facilities. However, it has to be recognized that at least at the lower primary level, majority of students are still attending government run schools or schools managed by local bodies. Data from the 75th (2017-18) NSS (GOI, 2018) indicates that girls, particularly in rural areas, are mostly availing government school while a much higher proportion of boys is found attending private schools in urban areas which indicates boys get preferential treatment as far as investment on education is concerned. Thus, improvement in quality of government run schools is absolutely necessary for achieving gender and social equity.

Analyses of studies in this regard bring out two important issues. First, in common discourse, the private-government divide is generally linked to the issues of quality in schooling. The common perception is that private schools are better in terms of quality in comparison to their Government counterparts. However, the quality issue has gradually transformed itself into an issue of gender and social divide in education. This divide is further exacerbated by wealth divisions. As a UNESCO Report on EFA (UNESCO, 2010) points out, educational inequalities in India have begun to mirror wealth-based inequalities with the richer going to private schools, thus leaving the Government schools to deal with the poor. In

fact, being born into the poorest 20 per cent significantly raises the risk of falling below the four-year threshold. (UNESCO, 2010: 140).

India's wealth divide in education are among the largest in the world – and they are reinforced by regional and gender disparities. While the richest 20 per cent spend, at an average, over eleven years in school, the poorest have average education expectancy that places them just above the four years 'education poverty line.' Poor rural females are well below that line. According to an estimation, India ranks 65 with the school life expectancy (Average years of schooling of adults by country[2]) of only 5.1 years. It becomes much lower for the poor people. For instance, the average poor rural woman aged 17 to 22 in Bihar averages fewer than two years in education (UNESCO, 2010). Thus, time spent in education is one of the most important determinants of life chances in all societies. There is no internationally agreed benchmark for education deprivation similar to poverty thresholds. However, people with fewer than four years of schooling are unlikely to have mastered basic literacy or numeracy skills, let alone built a foundation for lifelong learning. Those with fewer than two years are likely to face extreme disadvantages in many areas of their lives. Of course, learning achievement ultimately depends as much on the quality of education as on time spent in school. But the four-year and two-year thresholds are bottom lines that could be treated as indicators for 'education poverty' and 'extreme education poverty' respectively (UNESCO, 2010: 139). This nexus between private-government divide with social and gender disparities on the one hand, and wealth-based divisions on the other, has never been adequately addressed by educational policy makers in India. There is an urgent need to create a shared public space in education treating Government and private schools as complementary delivery systems working for a common cause. In this regard, insistence of the RTE Act 2009 (GOI, 2010a) to involve the private schools in delivery of free education could mark a new beginning in engagement of the private and the government school sectors.

Schooling without Learning: A Burden on the Children

It has increasingly been realised that education with sufficient quality alone can effectively fulfil the human development agendas. People may fail to get the expected benefits of education which has far reaching impact on socioeconomic development with serious policy implications. While definitions of school quality may vary, there is no gainsaying of the fact that 'learning' is at the core of all definitions. Viewed from the angle of children and parents, the very purpose of school participation is defeated if children fail to learn the basic knowledge and skills as envisaged in the curriculum. Increased emphasis laid on assessment of student learning outcomes in recent years has to be seen in this context. Assessments of learning outcomes in recent years in India show problematically low and/or unequal levels of learning among different sections of students indicating close association between quality and equity. It is not unusual to have a large numbers of children complete the primary school stage in Class IV or V without being able to read or write fluently or do simple arithmetic computations. ASER 2006 (Pratham, 2007) indicated that half of all children in the country begin to lag behind in Class I and continue to lag behind in the achievement of expected competencies in Classes III and V. What is even more disturbing is that several states which

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[2] http://www.nationmaster.com/graph/edu_ave_yea_of_sch_of_adu-education-average-years-schooling-adults

have been doing well in enrolment and participation, lag behind when it comes to quality of learning. In rural India, levels of learning are equally troubling. In 2008, just 28 per cent of Class 3 students could subtract two-digit numbers and only a third could tell the time (Pratham, 2009). The situation is still far from satisfactory as ASER 2018 (Pratham, 2019) indicated that there is a gradual improvement in basic reading among grade III children from 2014 to 2018 but, the percentage of children who can do at least subtraction has declined from 38.8 per cent in 2008 to 28.1 per cent in 2018. About half of all children of Class V can read, and less than a third can do basic arithmetic. The situation is not satisfying at the upper primary level as the report revealed that there is hardly any increase in learning level of children enrolled in Classes VI-VIII. The report has suggested immediate help of these children in acquiring foundational skills in literacy and numeracy.

Invariably all studies on learning outcomes show that more than fifty per cent students do not acquire even basic reading and writing competencies despite attending the full primary cycle. These studies also show considerable variation in learning achievements across schools and across social categories which should be a matter of concern as it would significantly erode the gains in access and equity, if not addressed simultaneously.

It is needless to emphasise that the quality of learning depends mainly on the functional efficiency of the school: Can it retain the children for the whole cycle? Do they progress smoothly from one grade to another? Are they getting adequate instructional time to learn every day? As estimated by the working group for 12th five-year plan (GoI, 2011), around 25-30 per cent children do not complete five years of schooling; and around 45 per cent drop out without completing the compulsory education period of eight years (GoI, 2011). Even according to the 2018-19 UDISE data, the drop-out rate has not come down significantly (GoI, 2020). One of the main reasons emerging from field surveys is that possibly children begin to lag behind academically from the early grades and consequently fail to progress to higher grades and eventually drop out of school by the end of or during the primary stage. In fact, the core question to be addressed is whether poor quality of schooling has become the cause for continued midstream drop out of children from schooling and eventual illiteracy and incapacity to pursue productive life in their adulthood. An empirical study of 88 schools in MP and Chhattisgarh, as mentioned earlier, also reveals the high repetition rates that are prevailing across the regions at the primary as well as upper primary level (Figure 7). It should not surprise anyone if many of these repeating children drop out sooner or later without completing the elementary cycle. Although RTE Act, 2009 (GoI, 2010a) has made automatic promotion mandatory at the elementary level, the recent UDISE (GoI, 2021a) has reported that around 28.3 percent at the primary level and around 16 percent at the upper primary level had to repeat their grades in 2019-20.

FIGURE 7

Grade-Wise Repetition in Three Rural Clusters
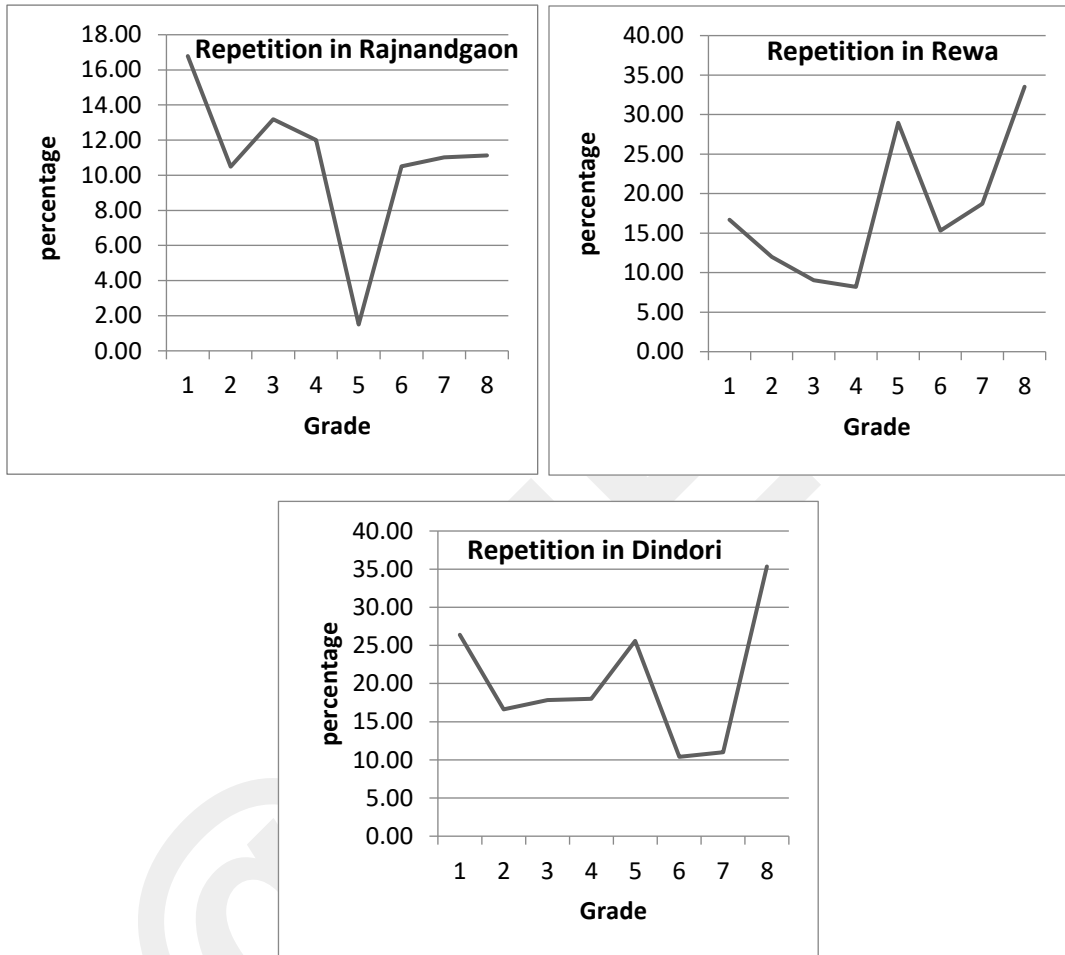
Source: Field Survey, NIEPA-CREATE Project, 2008 and also see in Govinda and Bandyopadhyay, 2010: 14 and Govinda and Bandyopadhyay, 2011: 32

One may argue that expanding the system by opening an adequate number of schools and through the creation of basic infrastructure facilities has naturally remained the top priority for planners and policy makers. This indirectly led to diminished attention to quality dimensions of schooling in the early decades of education development. While this is understandable, in recent years, SSA has been referring to quality enhancement as its main goal. There have been successful experiments conducted on small scale such as nali kali in Karnataka or ABL in Tamil Nadu. But they have failed to make much impact on state-wide adoption. Unfortunately, SSA has failed in devising effective strategies for changing the way schools function and classroom transaction is organised. It is time that the Government

policies and programmes look into such core issues concerning teaching and learning instead of merely supplying inputs.

Look beyond Schooling to Achieve the Goal of UEE

There is no doubt that enormous attention has been paid to elementary education in recent years. SSA has succeeded in creating a significantly enhanced awareness among the public as well as policy makers on the need to devote more resources on improving the elementary education provision. However, simultaneously, there is increasing evidence that we have to devote greater attention to certain linked areas even though they may not directly fall in the purview of elementary education. A few of these that demand urgent attention of educational policy makers are highlighted in the following sections.

Care in Early Years determine the Limits for Benefitting from Schooling

Increasing evidence from the field show that malnutrition limits the capacity to learn by drastically affecting the motor, sensory, cognitive, social and emotional development of children (EFA Global Monitoring Report, UNESCO, 2010; also see EFA Global Monitoring Report, UNESCO, 2008). Alderman et al (1997) found that an improvement in nutrition improves enrolment and cognitive development. Studies show that new-borns delivered with low birth weight face a heightened risk of early mortality and also face longer-term risks of disadvantage in health and education. Low birth weight is strongly associated with loss of years in school and poorer cognitive skills (Victora et al, 2008). Thus, many of the 8.3 million Indian children, born with low birth weight, will carry a burden of disadvantage with them into primary school. Moreover, almost half of all children under age 3 in India are underweight for their age, pointing to far deeper nutritional deficits (UNESCO, 2010:44). NFHS-4 (IIPS, 2017: 251) estimates that 18 per cent children are born India with low birth weight (less than 2.5 kg). The share of malnourished children is higher in India than in other countries in South Asia, and substantially higher than the world average (UNICEF, 2005). Experience shows that the situation is not irredeemable. Malnutrition can be reduced by providing supplementary nutrition and health facilities. In India, supplementary nutrition is given to children below six years of age through the Integrated Child Development Scheme (ICDS), initiated by the Government of India. Despite this programme, poor nutritional level of children is a major concern and because of cultural norms and existing gender relations, girls have more chances to be neglected as compared to boys. They account for a larger proportion of malnourished children and many of them are under the threat of being severely malnourished even in the years of adolescence and early youth. This affects not only their cognitive development but also chances of survival at the time of child birth.

The recent report of NFHS 4 of 2015-16 (IIPS, 2017) indicates that the level of child malnutrition has decreased since 2005-06. However, the number still remains too high to become complacent. Research also suggests that good-quality early childhood education programmes can yield significant short and long-term benefits, particularly for children from underprivileged backgrounds. Although early childhood care and education has gained more attention in recent years in India but so far, only a handful of eligible age group (around 15 per cent only) of 0-6 years could get access to pre-school education.

The policy implication from the discussion above is that six years which is the formal age of entry to primary education may be too late to act. Deficits in health and nutritional care in early years of development would have already predisposed the children in their cognitive development in such manner that they do not fully benefit from schooling. Interestingly, the RTE Act makes reference to preschool education but does not make it mandatory for the State to provide the services. Can we move ahead in achieving the goal of quality elementary education for all, which includes effective learning by all children, without improving the early childhood care support systems in the country?

Education of Adolescents and Young Adults help break the Vicious Cycle

Illiteracy, lack of productive skills and poverty effectively seal the possibility of exploring new avenues of livelihood for the young, thereby perpetuating the intergenerational trap of poverty and inadequate or no education for the household. Education of young people of age group of 15-24 years has, of course, received increasing attention in the country during recent years. Yet, high levels of non-enrolment and dropout from school have resulted in the existence of a large number of young people who have either never attended school or have dropped out without completing the full cycle of elementary education. No one can deny the fact that this section of population will sooner or later enter the world of work as unskilled labourers. Apart from these young people, there are those who despite availing educational facilities find themselves unfit for employment opportunities due to lack of specific vocational skills. All these young men and women are likely to become parents of children who are not likely to fare any better if the family conditions do not improve through appropriate skill building education.

Unfortunately, Indian education system has not adequately addressed the issue of imparting vocational skills. Consequently, proportion of young population with vocational education is abysmally low as only 3 per cent of rural youth and 6 per cent of urban youth have had any kind of vocational training (GoI, 2008b). There is little evidence that they enhance employment prospects. The image of technical and vocational provision as a form of second-class education that provides limited benefits for employment remains largely intact (UNESCO, 2010:7). The country's Industrial Training Institutes and various craft centres are not accessible to the vast majority of the poor. India also has some of the world's largest reported gender disparities in technical and vocational education, with girls accounting for just 7 per cent of enrolment at the secondary level and their courses heavily concentrated in traditional areas such as nursing and sewing. Governance problems have also hampered India's efforts to strengthen vocational education. In view of all these problems, Planning Commission (GoI 2008b: ii) has emphasised that "along with the development of education, the Eleventh Plan shall mount a major initiative on skill development and vocational training, in a mission mode. The innovations required in the institutional set-up have been identified."

The value of building productive skills among the young should not be viewed only for its impact on the economic conditions of the individuals involved. Rather it should be valued for its long-term effect on the next generation of children; it would ensure better opportunities for education for the children of these young adults. The country has to formulate innovative strategies. It is important to recognise the cyclical value of providing appropriate educational inputs to young adults on impacting schooling behaviour of their children.

Address the Problem of Child Labour more effectively

Links between child labour and educational access have received much attention, leading to an improvement in the situation in quantitative terms during the last two decades. Yet, large numbers of children continue to languish as child workers instead of attending school regularly. According to Multiple Indicator Cluster Survey (MICS) data, conducted by UNICEF (2004: 57), there were more than 12 million child labourers in India. "According to Census 2011, the total number of child labourers in India between 5-14 years is 4.35 million (main workers) and 5.76 million (marginal workers), which comes to a total of 10.11 million. Unfortunately, only main workers are considered as child labour in government reports. Furthermore, the total number of adolescent labourers in India is 22.87 million, bringing the total figures for child and adolescent labour (5-18 years) to 33 million. 56% of the working adolescents are no longer studying (Census 2011)" (Ghosh and Mahara, 2020: 1). As per an estimation of ILO (2020), there are around 152 million children in child labour, 72 million of which are in hazardous work (Ghosh and Mahara, 2020).

Based on the variety of work contexts in which children are engaged in labour, Burra et al (2006: xl) argue that "the circumstances under which children work in any number of activities gives the lie to the view that work is a form of socialisation into adulthood." This is also supported by findings that work conditions do not leave scope for children to pursue schooling even on part-time basis. A time-use study points out that while 67.1 per cent of children surveyed were engaged in educational activities, about 17 per cent were engaged in purely economic activities (Hirway, 2002). One of the main reasons for the high prevalence of child labour in these areas is the burden of debt, which forces families to send their children to work, combined with low literacy rates (UNICEF, 2004: 60¬61). The persistence of child labour is therefore also linked to the conditions under which adult labour is organised and the Government needs to focus on improving the adult labour market in order to have an impact on reducing the child labour market (Basu and Ban, 1998). Education Departments cannot sit quietly for the adult labour conditions to improve. If child participation in school has to improve, child labour problem has to be tackled. It has to be seen if the RTE implementation will help address adequately the problem of child labour which in one way or the other restricts the freedom of the child to pursue full time school education and other accompanying activities. But, the recent amendment to the child labour act allowing for children's participation in home-based industries has made the matters more complicated.

Convergence with Other Development Initiatives

Educational development cannot be achieved in isolation or seen in isolation of other development activities. Achieving convergence with other agencies providing other services could go along-way in ensuring sustainability of gains achieved in the education sector. Even though the guidelines encourage such convergence, in reality, school education programmes work in isolation from other social development activities as well as non-government actors in the field. For such convergence to come, it is essential to reform the basic design of the programmes such as the SSA, thereby creating space for actors from other development agencies and departments to intervene in school education programmes

Investment has to increase and be better targeted

In general, experts consider that India is not investing adequate financial resources to provide quality education for all (Dreze and Sen, 1995; Tilak, 2004), as reflected in the trend of financial allocations made for elementary education through Annual as well as Five Year Plans. More than four decades ago, Kothari Commission called for enhancing public expenditure on education to 6 per cent of the gross domestic product (GDP). Since then, there have been repeated calls by various experts, committees and national policy documents, for greater public expenditure on education. It has been realised that without concerted efforts and enhanced spending, universalisation of elementary education will remain an elusive goal and educational inequalities will continue to widen.

But the issue is not confined to the level of spending. It is even more important to ensure that the money is invested rightly, for which a well thought out design for investment is to be drawn at the national level. Seen against this, three issues emerge very clearly. First, why have we been unable to reduce interstate disparities? It may be because of the fact that some of the states and districts have received development funding for more than 15 years. In fact, some of the early receivers of such funding under DPEP and SSA were in relatively better developed states such as Kerala, Karnataka and Haryana. To what extent has this impacted the elementary education scene in these districts in a cumulative fashion? Why have we not moved to an altogether new agenda for action in these districts? It is difficult to explain why these districts are also subjected to the same set of planning parameters and norms as other districts under SSA and now under Samagra Shiksha. The third and more difficult issue is that of social inequities. Considering that the Constitution recognised the historical necessity of affirmative action, one would have expected that the marginalised groups received special consideration in the planning process. Again, surprisingly, except for some specific schemes targeted at girls and SCs and STs, SSA has adopted a generic and pan-national normative framework for funding. It is in this perspective that Jhingran and Sankar (2009) have recommended that there is a need to bridge the disconnect between the 'real investment needs' of the districts reflected in their status of educational development and the actual financial allocations made on an annual basis under SSA.

SSA has made an effort to apply corrective measures in recent years. Before 2007, equity played only a limited role in determining resource allocation. District population size was the main criterion used in estimating need. A new formula attaches more weight to social indicators, including a district-level Education Development Index. In 2005/2006, the differences in per child allocation between high and low Education Development Index districts were negligible, but in 2008/2009, districts in the lowest quartile on the index received twice as much per child as those in the highest quartile (Jhingran and Sankar, 2009). This suggests that two policy reforms in spending are critical to progress further. One is that regional disparities have to be adequately recognised and investments in different states and districts should be based on the principle of redistributive fiscal transfers and not one of a standardised yardstick for all. Second, we have to prioritise social equity in spending patterns. This demands more targeted transfers in place of generic support mechanisms which seem to be the principle currently in operation. Obviously, such fundamental changes in funding pattern involve politically tough decisions. But without making such a tough choice the goal of UEE may continue to elude.

Conclusion

The Right to Education Act undoubtedly has the potential to radically transform provision of elementary education in the country. Government has traditionally been engaged in implementing a predetermined set of activities and providing norm-based inputs in a project mode to improve elementary education. Implementing the RTE Act demands that this is replaced by a programme-perspective that has stability and continuity in administrative and operational arrangements. Also, it would become inadequate to show progress in utilising the funds and meeting the project targets. The real test of the progress will lie in the way the schools function to meet the educational needs and entitlements of every child.

Even though it is premature to make any evaluative observation, the record of implementation of the Act during the last ten years presents a mixed picture. The central issue involved in implementation is that of monitoring the institutions of education delivery at the end point and ensuring that the entitlements of the children guaranteed by the Act are delivered in letter and spirit. Considering that currently the largest numbers of schools are under Government control, it carries the burden of proving that it is capable of delivering the child entitlements with sincerity. Without significant improvement in schools functioning under its direct control, it will be difficult for the Government to take on the task of overseeing with any moral authority all the schools, many of which are administered by non-state bodies and may be working more efficiently. The situation is further complicated by the fact that in most states the school inspection system has been virtually dismantled. Consequently, the State Governments are required to create additional supervisory structures and mobilise the financial and human resources to take up the task of implementation monitoring. This is definitely a tall order expectation in many states. How can the Government deal with this situation? We have to make an honest and speedy choice. One possibility would be that the Government sheds some of the responsibilities of directly managing schools by transferring that responsibility to NGOs and other non-state volunteers. This would for instance mean relieving the burden of recruitment and management of huge number of teachers for the currently Government run schools. Such a move will create opportunity and time for State professionals to focus on policy making and monitoring the implementation process by unburdening them of routine school management work. This demands that dedicated NGOs are available in adequate numbers in all geographical locations to function under the grants-in-aid system. Alternatively, the State Governments could give total autonomy for SMCs and together with local self-governments to manage all aspects of school administration. To strengthen the monitoring process, each state could also establish an independent professional body for evaluation and monitoring of school functioning on a regular basis, with support from the Central Government. Indirectly by giving over the task of teacher management to individual schools and/or local authorities, teacher accountability systems can also be put in place in a more meaningful and sustainable manner.

Another area which is critical for successful implementation of RTE is the way financial sharing between the Centre and the State Governments is managed, and even within a state how the fund flow is targeted to overcome inequities. Addressing this would require, as highlighted earlier in the paper, a reform of the current pattern of fiscal transfers which is standardised and rigid across the states and proactively moving towards an approach of redistributive fiscal transfers. In other words, it will require a differential need-based sharing pattern between Centre and states. This will have to be coupled with prioritising social equity

in targeting funds within each State. While this may involve designing a more sophisticated approach to funding, without such an approach, whole regions and historically disadvantaged groups would, in all likelihood, continue to be left behind.

The policy propositions presented in the paper whether related to changing the nature of involvement of the State in managing schools or regarding the adoption of a differential pattern of sharing of finances between the Centre and the State Governments, would require serious political engagement for consensus building. Mere consultations between the Central and State bureaucracies will not suffice. The process may prove to be difficult but that is what the situation demands. In this regard, implementation of the recently announced National Education Policy, 2020 (GoI, 2020b) offers an opportunity to engage in focused discourse on the problems confronting UEE in the country. It calls for a sincere collaborative effort among the Government, the civil society and various other stakeholders to take bold steps in resolving fundamental issues related to quality and equity that continue to stifle progress towards the long cherished goal of universal elementary education.

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NIEPA

Fostering Curiosity in School Children: Classroom Realities of Indian Schools

Chandra B. P. Singh[*]

Abstract

The study attempts to answer two basic questions of classroom teaching: (a) what are the most common teaching practices at the elementary school level? (b) Do teachers foster curiosity in children during teaching? Classroom proceedings enfold various teaching activities that may lead to a knowledge gap in students. For the study, 137 primary and middle schools (altogether 411 classes) were randomly selected to discern the pattern of questioning and answering during classroom teaching. Findings reveal that a large number of teachers adopt lecturing, followed by writing on the board, dictating, and they ignored some important teaching techniques such as explaining, demonstrating, and experimentation, though they are familiar with all these. Hardly any student put a question to a teacher. Teachers failed to generate a desire for knowledge in their students, showing hardly any use of curiosity-led instructional teaching design. Throwing any question to a class or a group of students was an unplanned teaching behaviour. It is a limitation of the in-built education system that prioritises rote learning, exam scores, and grades that measure static knowledge rather than understanding. The findings discuss the limitations of the in-built education system and mindset of teachers that discourages epistemic curiosity in children.

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The study aimed to examine whether classroom teaching practices had an edge to foster curiosity in school children. Fostering curiosity in children can be assessed by a pattern of questioning and answering generated during classroom transactions. The study aimed at exploring various teaching methods adopted by teachers and a pattern of questioning and answering during classroom transaction that could be a significant indicator of curiosity. Curiosity is the desire to obtain such new knowledge as is capable of either producing positive experiences of intellectual interest or of reducing undesirable conditions of informational deprivation (Piotrowski, Litman and Valkenburg, 2014). A presumption is that teachers receive a plethora of teaching inputs during trainings at various stages to promote curiosity in children. They are expected to apply curiosity-led instructional strategy to classroom teaching. The New Education Policy of India (2020) lays emphasis on holistic development of learners focussing on "learning how to learn" --- away from the culture of rote learning and provides more space for critical thinking with the help of exploratory, collaborative and experiential learning. The National Curriculum Framework (2005) outlines many strategies to teaching that are relevant for stimulating curiosity in children. "Learning how to learn" is possible when teachers promote curiosity by selecting an appropriate instructional design of teaching. The study was undertaken with a presumption that a teacher adopts multiple curiosity-led instructional strategies to the classroom situation.

Curiosity is a multifaceted cognitive construct. Behavioural researchers treat curiosity as an antecedent variable that leads to learning and performance, while many others use it as an outcome variable that results from classroom climate and instructional methods (Kashdan *et al*, 2018). Another group of researchers argues that curiosity is a mediating variable which finally influences learning outcomes (Jirout, Vitiello, and Zumbrunn, 2018). This has resulted in ambiguity while fencing the boundary of curiosity. Promoting curiosity in children during classroom teaching demands careful planning and execution according to subject and grade. Teachers know when to create uncertainty (a knowledge gap) and when to use the rote learning technique. Sometimes, they use simultaneously both techniques to handle the classroom proceedings. The optimal level of uncertainty varies according to grade and subject (Jirout and Klahr, 2012). On the continuum of curiosity, not all students experience the same level of learning challenges and take same kind of risk in resolving them. Previous researches explain that the intensity of curiosity decreases as students go to higher classes (Engel, 2013; Jirout and Klahr, 2012). This may result from an inherent deficit of the educational system which still gives weightage to rote learning. It was one of the reasons to notice more surface and strategic learners and fewer deep learners in the Indian education system (Singh, 2017). Performance-oriented students avoid risk failure behaviour (Hulme, Green, and Ladd, 2013). A survey in Bihar (BEPC, 2020) stated that students spent less time (23 per cent) on smart phones or tablet computers for enhancing their knowledge. Instead of e-learning platforms, games and cartoons were dearer to them. Pedagogues admit that there is no substitute for offline learning (Jirout, Vitiello and Zumbrunn, 2018). To promote critical thinking teachers need to provide scaffolding for their students and respond to questions generated by them during classroom proceedings.

Previous studies on classroom proceedings in India traced a few examples of curiosity-led instructional design used by teachers (Singh, 2006; Singh, 2009). Teachers are expected to create some elements of challenges during classroom proceedings. Previous researches disclosed that teachers could hardly encourage their students to participate in exploratory

and experiential learning processes. Researches in the West (Hulme, Green, and Ladd, 2013) revealed that promoting curiosity in classrooms was effective only for a few learners. A robust instructional teaching design embodies a learning environment that helps increase preference for and comfort with a greater level of uncertainty. Classroom proceedings studies in India (Clark, 2000; Saraswati, 2000; Singh, 2006) suggested that teachers did not exercise curiosity-led practices in the classroom which they had learnt during the District Primary Education Programme (DPEP-III). They theoretically admitted the usefulness of curiosity-led instructional strategy to learning but experienced many constraints to apply it to a crowded classroom (Singh, 2009).
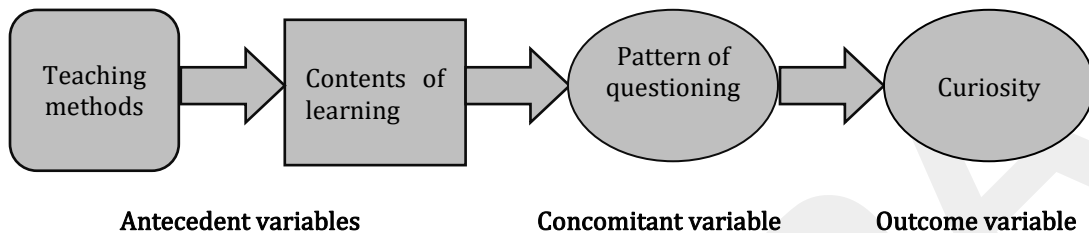
What are the constraints of curiosity-led teaching practices in India? The Indian schooling system evaluates students' academic achievement based on performance metrics. The quantitative scores get precedence over the critical thinking or their explorative and collaborative abilities of learners. The schooling system recognises score cards of performance metrics and largely ignores the unseen talents of children. Learners do not find sufficient space to reflect their skills and competence in the right direction as the teacher-centric instructional design does not allow them to be critical during learning processes. Researches in India further confirmed that teachers did not incline to all students in the classroom proceedings. Classroom observations at Delhi schools showed that teachers initiated more interaction with boys, giving more time to answer any question, nodding towards them, looking at their side while teaching (Tulsyan, 2021). Throwing questions or expecting answers from their favourite were some of the common practices of classroom proceedings (Singh, 2006). They had a choice of a small group of learners during interaction in the classroom. Performance-oriented goals make students more strategic learners while mastery-oriented goals more deep learners (Grant and Dweck, 2003; Pintrich, 2003; Singh, 2017). Students have a mindset either to perform or probe in a challenging situation. Learning becomes a means to an end rather than the goal itself when they perform. An effective instructional teaching design can serve both the goals and means of learning by fostering an optimal level of uncertainty (level of challenges). Based on a few indicators of curiosity the study focused on twin core objectives:

1. To identify various teaching styles that lead to curiosity.
2. To ascertain a pattern of questioning and answering generated during classroom transaction.

Conceptual Linkages to Variables

There may be multiple teaching strategies to foster curiosity in children. Previous studies established the fact that during classroom transaction teachers adopted various teaching methods-asking many questions and thereafter, expecting answers from their students (Singh, 2009). Even students threw many questions to their teachers to bridge the gap in their knowledge. Some indicators such as questioning, involvement in classroom activity, teachers' response to questioning, etc., were behaviourally observed to estimate the level of epistemic curiosity in learners. There have been numerous studies on the use of questioning as a strategy for teaching and learning (Albergaria-Almeida, 2010; Chin and Osborne, 2008; Graesser and Olde, 2003). Teachers employed questioning to stimulate

epistemic curiosity in students. The pattern of questioning was presumed to be one of the significant indicators of curiosity.

Teaching methods	→	Contents of learning	→	Pattern of questioning	→	Curiosity
Antecedent variables				**Concomitant variable**		**Outcome variable**

Research Questions

The study adopted a qualitative approach to capture some behavioural indicators of epistemic curiosity. Classroom proceedings constituted multiple dimensions ranging from teaching methods to other practices. A set of two independent stakeholders --- teachers and learners --- were taken into consideration for observation. There would be a behavioural reflection of curiosity-led instructional teaching design on a pattern of questioning and answering, if it is properly employed in the classroom teaching. A few research questions were framed to capture curiosity in learners during classroom transaction. They were as follows:

1. Did teachers employ any specific technique to foster epistemic curiosity in children during classroom transaction?
2. Was there any pattern of questioning and answering during classroom transaction?
3. Did students ask questions during classroom transaction and get answers from their teachers?

Methodology

The Setting and Coverage

The study was conducted in the government-run schools in an eastern state of India covering 137 middle schools and 411 classrooms of grades 3, 5 and 8. It was a multi-stage sampling design covering 12 districts of 9 divisions. At the second level, 12 Block Resource Centres (BRCs) were selected. At the third level, 12 Cluster Resource Centres (CRCs) were chosen, each from a different BRC to cover all schools within each CRC. At the fourth level, 411 classrooms from various grades were chosen for observation and audio-recording of classroom proceedings. The sample units selected at each level followed Standard Operating Procedure (SOP).

Classroom Observation Checklist

A classroom observation checklist comprising teaching styles, planning of lesson, initiation and closing of classes, activities and questioning across grade and subject was developed with the help of a panel of experts. The checklist was tested in three different schools. The checklist captured the behaviour of both the stakeholders --- teachers and students --- across grades and subjects. Indicators of classroom proceedings were quantified. Field investigators (FIs) were requested to record each activity shown either by teachers or students on each parameter. These were transcribed to measure each parameter applicable to the classroom transaction. At least 20 per cent of classes of each subject were audio-recorded. These audio-tape recordings were content-analysed to cross-verify the observational reports. If any discrepancy between audio-recording and observational reports existed, the team corrected the anomaly.

Procedure

The entire classroom proceedings of a slot of 40 minutes allotted to each period were observed and transcribed. A fair number of them were audio-taped and were subjected to content-analysis. A team of two well-trained field investigators for each school was constituted to capture classroom proceedings. Teachers were ensured that the entire classroom proceedings to be transcribed would be recorded only for research purposes. They were requested to follow their common teaching practices in the classrooms. This arrangement was made in such a way that three observations of each school would cover three separate classroom proceedings of three subjects --- languages, mathematics, and environmental science/social science --- by following a counterbalancing design. The data collection work was completed by the end of 2020.

Scoring

The classroom proceedings were measured using indicators that included two primary dimensions: instructional approaches and questioning. Each activity was recorded and transcribed into the score. To neutralise biases in observation audio-tape contents were analysed. If required, a necessary modification was made to the score. In a few cases, some judgemental errors were noted by the observers (<5 per cent). These errors were modified with the help of audio-tape content. Questioning by the stakeholders (students and teachers) was one of the significant indicators of curiosity.

Findings

Grade-Wise and Subject-Wise Teaching Method

Teachers opted for their way to handle the classroom situation which might or might not be a copybook prescription. Teachers' way of conducting the classroom proceedings were not supposed to be predetermined categories of teaching styles as suggested by pedagogues. Teaching styles are presented in Table 1. Lecturing continued to dominate over other teaching methods across grades (about 27 per cent). Teachers not only assigned some

tasks to students but also guided them during classroom transaction (about 12 per cent). They also kept engaging learners by adopting recitation technique (13 per cent), if required. This technique restricted students to ask questions. Writing on the board was a popular technique to explain learning contents. Simultaneously, they dictated learners at primary classes (7 per cent). They often demonstrated some materials especially in grade 8. The study noted a few pieces of evidence of experimentation in grades 5 and 8. Interestingly, teachers moved out of classes to attend an adjoining class for some reason. They left classes by instructing learners to complete the assignments until they returned. It happened because of handling dual classes in absence of a teacher in another class. There existed a few occasions when teachers made the topic more interesting by using storytelling mode. It was to some extent visible in Class VIII (5.72 per cent).

Subject-wise classroom transaction was an exercise to draw some conclusions on fostering curiosity in a particular subject/topic. In the case of language and environmental science/social science (grade 8) lecturing again established its dominance over other techniques. However, for mathematics, it was not a popular practice (7 per cent). Writing on the board was a common technique to explain the intricacy of mathematics (27 per cent). Teachers were found helping individual learners more in mathematics and guiding them to resolve problems (24 per cent) as compared to language and environmental science/social science (EVS/SS). However, the cases of unguided assignments (did not attend individual learners) were also evident in the study (about 14 per cent). Dictation was a common teaching practice in the language (7 per cent). Fewer pieces of evidence of experimentation were noted (5 per cent) in the case of EVS/SS. Similarly, the use of demonstration was negligible in all the subjects. Evidences of narrating the topic like a story teller and making it more interesting were visible in the case of language and EVS/SS (about 6 per cent).

TABLE 1

Grade Wise and Subject-Wise Teaching Style

Style	Grade-wise action time in minute			Subject-wise action time in minute		
	III	V	VIII	Lang	Math	EVS/SS
Lecturing	7.72 (25.73)	7.89 (26.23)	8.75 (29.16)	8.26 (27.53)	2.18 (7.26)	9.17 (30.56)
Telling	1.45 (4.83)	--	1.72 (5.73)	1.16 (3.86)	--	1.75 (5.83)
Demonstration	1.42 (4.73)	1.62 (5.40)	2.29 (7.60)	1.65 (5.50)	1.16 (3.86)	1.47 (4.90)
Dictation	2.07 (6.90)	2.15 (7.16)	1.15 (3.83)	2.26 (7.53)	--	--
Writing on board	3.67 (12.23)	3.08 (10.26)	3.85 (12.83)	3.52 (11.73)	8.10 (27.00)	3.21 (10.70)
Using activity	1.89 (6.30)	1.17 (3.90)	--	1.69 (5.63)	3.05 (10.16)	1.77 (5.90)
Engaged by learners' recitation	3.82 (12.73)	3.42 (11.40)	2.23 (7.43)	3.34 (11.13)	--	1.54 (5.13)
Guided class assignment	4.22 (14.06)	3.72 (12.40)	2.78 (9.26)	4.11 (13.70)	7.27 (24.23)	2.46 (8.20)
Unguided class assignment	1.96 (6.53)	2.77 (9.23)	4.77 (15.90)	2.46 (6.86)	4.39 (14.63)	4.05 (13.50)
Dialogue	--	--	--	--	1.19 (3.96)	1.79 (5.96)
Experimentation	--	1.11 (3.70)	1.28 (4.26)	--	--	1.59 (5.30)
Moving out from the class	1.78 (5.93)	1.26 (4.20)	1.19 (3.96)	1.95 (6.50)	2.65 (8.83)	1.19 (3.96)

Note: Figures in parentheses display percentages.

Teaching styles did not significantly vary in accordance with grade and subject. The expectation that learners would experience more activities and demonstrations and less lecturing did not get substantive evidences. That learners were given role assignments or were left to fend for themselves for a considerable period of time was not just a reflection of ignorance of training inputs but also of the realities of classroom in the government-run schools. Partly because of continued insensitivity to the new expectations and partly because of a mind-set, teachers preferred to adopt a traditional mode of teaching. The classroom proceedings further explored evidences of lesson planning and preparation. The study noted that teachers had no forward planning of lessons across grades (about 65 per cent).

Even learners had no idea of the subject or topic scheduled to be taught. Though teachers kept claiming of preparing lesson plans, no evidence to support their claims was noted. Not preparing the lesson plan was also substantiated by the fact that teachers changed the topic or even the subject midway (for instance, from mathematics to EVS). Nevertheless, around 49 per cent of teachers across grades prepared their topics and organised their lectures to be delivered. A well-delivered lecture did not always mean prior planning, as teachers chose topics with which they were more familiar, even if it had been addressed in the earlier sessions. The presence of observers most likely made them extra cautious to perform better than usual. In some cases, it disrupted teacher's design of instruction and classroom transaction. Surprisingly, teachers did not have their own set of textbooks. In many cases (57 per cent) they took textbooks from learners before teaching. Over 54 per cent of classes of all three grades did not match the routine, when verified.

Initiation and Closing of the Classes

Table 2 shows a pattern of initiation and closing of classes. This analysis was done in view of drawing some inferences about handling the classes. The presumption was that initiation and closing of classes ensured learners' involvement in classroom learning. Without any prior checking the previous knowledge of students, teachers jumped right into the subject to complete the course. This practice was noted more in grade 8 (71 per cent). Hardly a few teachers felt a need to check the previous knowledge which they had given to them. A few teachers initiated the classes either with sufficient background (13-27 per cent) or narrated a relevant story/event (4-17 per cent). The majority of the classes abruptly ended (36-54 per cent). Recapitulating and evaluating the topic before closing of the classes were least visible. However, assigning homework to them was evident before closing of the classes.

TABLE 2

Initiation and closing of Class (%)

Initiation	Grade		
	III	V	VIII
With sufficient background	26.52	22.72	13.42
Narrating a story or event	17.25	14.38	4.20
Checking the previous knowledge	8.24	8.29	11.65
Directly on the topic	47.97	54.61	70.73
Closing			
Recapitulating	22.43	14.58	12.72
Evaluating	17.27	13.66	14.57
Assigning task	23.75	17.28	26.62
Winding up abruptly	36.55	54.48	46.09

Learners' Activity during Classroom Transaction

Child-centred teaching remains incomplete without ensuring activity to be performed by learners. Many teachers refused to participate in activities that had additional meaning such as singing and dancing. Although children enjoyed them, many teachers had an opinion that such activities killed learning time. Such misconceptions, coupled with lack of motivation, resulted in rare presence of any kind of activity in teaching design. A frequency count suggested that only 47 activities out of around 411 classrooms observations. Of them, 27 activities could take place in grade 3. Only 6 activities were found in the grade 8. In grade 3, around 41 per cent of all learners were seen to be involved in activity. On the other side, only 26 per cent in grade 5 and 15 per cent in grade 8 of the entire class showed their involvement. Over 60 per cent learners of the entire class in both grade 5 and 8 had no involvement in activities initiated by teachers. The data was analysed in terms of relevance, participation, and learning output. Many of the activities in each grade were found irrelevant. As a result, over 60 per cent activities did not help them learn in grades 3 and 5. Even activities did not ensure participation of learners in all grades.

Questioning and Answering Pattern during Classroom Teaching

The way teachers managed classroom transaction might not establish a linkage to curiosity in learners. This could be presumed by a pattern of questioning and its interface with learners. The study counted every question separately asked by teachers and learners during classroom transaction and analysed from different angles. Table 3-6 present pattern of questioning. Over 50 per cent of questions in grade 3 and 5 and 36 per cent in grade 8 were directed to the entire class. In grade 8 about 59 per cent questions were directed to individual learners. A few questions were thrown to a particular group, namely, the front row students, gender specific or backbenchers. But teachers, by and large, showed their inclination to brighter students irrespective of gender. They did it to get the answer in presence of the observer. Preference of directing the questions to boys than girls was noted to be higher (59 per cent). In grade 3 and 5, teachers asked more questions from boys (69 per cent). However, questioning in grade 3 was almost equal both for boys and girls. Though there was a gender bias, teachers did it to elicit correct answer from them. Teachers kept waiting for the responses from students across grade (> 50 per cent). On a few occasions they answered questions without waiting for any response from learners (Table 4). While questioning during transaction about 50 per cent students of the entire class of grade 3 and 5 and about 40 per cent of grade 8 responded to their teachers (Table 5). However, in grade 8 about 53 per cent individual students responded to questions.

Not all teachers had patience to wait for the answers by learners. Table 6 displays a situation when learners failed to answer or did not reply to teachers. Teachers dismissed the answer, when found not correct across grade (about 22 per cent). They either corrected the answer (> 50 per cent) or elaborated it after a request by learners (about 25 per cent), reflecting their sensitiveness to learners.

Further, an analysis was done to ascertain grade wise pattern of questions asked by students. Students asked altogether 115 questions (22 from grade 3, 38 from grade 5 and 55 from grade 8). At the lower grade they asked fewer questions. In grade 8 the frequency of asking questions got increased. There existed significant variations in students of various

grades asking questions. Questioning by all across grades did not go beyond 27 per cent. Percentage of asking questions by a few learners radiated between 25 and 42. About 50 per cent individual learners of grade 3 and 47 per cent of grade 8 asked questions during classroom transaction. The remaining class kept listening to teachers. Gender-wise analysis disclosed that there existed least variation in asking questions about the topic. Some 58 per cent boys from grade 5 raised questions and this figure was higher than that for their counterpart (43 per cent).

TABLE 3

Questioning by Teachers (%)

Questioning	*Grade*		
	III	*V*	*VIII*
Entire class	55.25	51.72	36.42
A-group	4.37	7.28	4.97
An individual	40.38	41.00	58.81

TABLE 4

Response Pattern of Teachers (%)

Teacher	*Grade*		
	III	*V*	*VIII*
Waited for the response	57.36	54.29	55.42
Did not wait for the response	17.24	18.38	21.22
Herself/himself answered	25.40	27.33	23.36

TABLE 5

Response Pattern of Learners (%)

Learners	*Grade*		
	III	*V*	*VIII*
Entire class	50.12	47.36	40.43
A-group	9.29	7.29	6.22
An individual	40.59	45.35	53.35

TABLE 6

Teachers' Response to Answers (%)

Teachers	*Grade*		
	III	*V*	*VIII*
Dismissed the answer	21.36	22.16	24.26
Corrected the answer	60.67	52.41	50.28
Requested to elaborate the question	17.97	25.43	25.46

Discussion

The study attempted to capture some behavioural pattern of curiosity in learners during classroom proceedings. Curiosity was assessed through questioning and its answering pattern during classroom transaction. A live interaction between teachers and learners helped estimate the level of curiosity in learners. Though a slot of 40 minutes was not sufficient to estimate curiosity of learners, teachers made some attempts to create a learning situation for fostering curiosity in them. Also, the respondents had a tendency to respond or behave in a socially desirable way in any survey especially when a set of observers were present during the running classes. The study admitted its limitations and constraints of observational rating technique. The analysis of classroom proceedings made it obvious that by and large, teachers did not promote the curiosity-led learning environment in the classroom. A large number of teachers kept practising lecturing followed by writing on the board, assigning tasks, dictating, reciting. Demonstration and experimentation required planning and preparation of the topic. Teachers did not give priority to such techniques. As a result, teacher-centric classroom proceedings made classes passive and monotonous.

It was also evident that not all students, regardless of grade or subject, shared the same amount of curiosity. Even within the subject, not all topics could generate critical thinking and questioning. It was contingent upon teachers' ability to assign some tasks to them for self-questioning or design some group activities for generating curiosity in the topic. The study did not find a significant pattern of questioning and answering from both teachers and students. Teachers continued floating more questioning to the entire class especially in grade 3 and 5 and less in grade 8 (36 per cent). It was a tendency to ask some general questions from the entire class in order to ensure an answer during teaching. They asked very few questions from a particular group (about 4-7 per cent) and focussed more on an individual learner. Teachers moved to a particular learner to ensure correct answer of the question while teaching. Questioning directed to the entire class did not go beyond 24 per cent. A group of students was found questioning more at the primary level. However, a few individual learners had a tendency to throw more questions in the class. Teachers had no time to initiate any group activity. They kept engaging classes without any stimulation to create a gap of knowledge in learners.

Engaging classes and fostering curiosity are two different phenomena. An engaged student may be or may not be curious in the topic to be taught. Curiosity does not require any forced engagement. Engagement was more than paying attention but did not demand an empowered learner forging into new ideas with an open-mind through inquiry and

questioning. The study did not get any significant evidence of teaching style which could establish a direct linkage to questioning. Other than mathematics, lecturing was a prominent technique for both language and social science. Teachers elicited and supplied factual information in a fairly routine manner. They provided feedback to students but did not provide extra time to puzzle their way through to the right answer. Another alternative solution was to initiate activity with questions which encouraged students to think of actions rather than answers. Direct instruction was found to be effective in teaching specific facts or bits of information while deeper learning came from students' deriving the facts and information themselves. The second option known as child-centric classroom proceedings required planning and preparation for creating an uncertainty or a knowledge gap in learners (Jirout, Vitiello and Zumbrunn, 2018). There existed no substantive evidences of planning and preparation of lessons by teachers before engaging classes (Tulsyan, 2021). Teachers entered the class without any lesson plan and, in most cases, without any textbook. Many activities during classroom transaction were indeed, not relevant. Over 60 per cent activities initiated by teachers did not help students learn in grade 3 and 5. Even such activities did not ensure participation of learners across grade.

Questioning either by teachers or students during teaching gave a meaningful pattern. Questioning can be an extraordinary tool of learning. A good question if asked by students reflects the level of curiosity that consolidates the level of understanding. A student's ability to answer question is always appreciated, but more important phenomenon is to ask relevant questions at their own level and seek a comfortable solution of it. It is possible, when a student gets optimum level of dissonance during classroom transaction. But how do teachers create such optimum level of dissonance in them? It is a challenge of instructional design. Teachers asked questions during teaching but showed their biasness to the brighter students in order to ensure correct answers from them. They were extra cautious while teaching and hence, showed their best performance during observation. In many cases they taught the old units which they had already covered earlier. Many teachers were found delivering wrong concepts to learners and a large number had serious problems of articulation. Many of them had problems in pronunciation and accent. Teachers did not find it necessary to read instructions given at the beginning of the textbooks. Some teachers could not recall the number of units of a textbook. The newly recruited mostly young teachers were less professionally competent to manage classroom transaction. They could only somehow learn to manage classes (Sinha, Banerji and Wadhwa, 2016).

Two important dimensions of curiosity need to be discerned, namely, joyous experience and deprivation sensitivity. A student is curious when she/he copes with distress that arises from exploring the novel situation. The study did not find any evidence of the need for exploration by learners. While answering questions teachers did not allow adequate time to think of the situation. They either dismissed the answer or corrected the answer. Students had less space to ask questions in the class. They kept listening to their teachers. When asked any question by students, it did go either unattended or discouraged. The analysis revealed that teachers did not use curiosity-promoting instructional design to the level that was expected. It was most likely a limitation of in-built education system, which prioritised rote learning, exam score and grades that measure more static knowledge and less understanding knowledge. The in-built education system is based on performance in the exam that makes students less curious (Hulme, Green and Ladd, 2013). Of late, the blended learning is more encouraged to customise learning experiences. It is yet to witness how

much digital technology has benefitted students of the government-run schools. "Digital education cannot substitute for real learning (offline learning). Teachers feel trapped and enslaved to a system that encourages coaching not teaching. The entire process is disconcerting. Students learn more from each other while engaging in challenging and collective tasks. Staring at a screen or blackboard, learners do not think, question, argue, discuss but only act as remote receptors of what is beamed. Learning by technology cannot ensure curiosity in learners. IT industry cannot be a substitute for teachers. Curiosity requires some group activities and meaningful work. Education is not about competence but more about motivation" (Rampal, 2021: 22). "Education is not just about delivering lessons or filling worksheets, perhaps more about teacher-student interactions, peer interplay and an experience of a school life which supports development of a range of skills, competencies, and attitudes" (Tulsyan, 2021: 23). The findings also reveal that teachers need to create optimum levels of uncertainty in students and allow them to gain self-learning experiences without any fear of being wrong.

Summary and Conclusions

By and large, teachers adopted rote learning method to enhance the performance of learners and expected factual answers from them. Asking questions from their students was an unplanned teaching behaviour. They waited for responses in many cases and finally, answered the questions. They either elaborated or corrected the answer, if found wrong. Teachers received answers mostly by a few students and not by the entire class. A few students had asked questions during classroom transaction. Teachers did not provide extra time for students to puzzle their way to the right answer. Teachers need to initiate some activities with questions rather than seeking a correct answer and model their own inquisitiveness for the children, praising youngsters for their actions rather than answers. The study suggested two points for promoting epistemic curiosity in classrooms: (a) creating learning experiences by creating optimal levels of uncertainty and (b) assisting students in becoming more curious by increasing their preference for and comfort with greater levels of uncertainty. Online learning during school closures has opened many learning avenues that may promote curiosity in students

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Managing Semester System: Choice-Based Credits and Student Assessment

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Abstract

The higher education system in the country has been striving for improving the quality of education to prepare an educated, competent and skilled workforce. In 2009, the UGC introduced Choice Based Credit System (CBCS) – a student centric reform – and all universities and colleges of the country were directed to adopt these reforms by 2015. The reform envisaged replacement of traditional annual academic year with two semesters. The key areas include Semesterisation of the curricula; standardisation of examinations; reformation of syllabi in the form of modules, and switching over from the numerical marking system to grading system. Strengthening of the CBCS to provide choice and flexibility to the students has been reinforced by the National Education Policy 2020. This paper examines the theoretical concepts of semesters, credits and assessment in higher education institutions, also the structure of CBCS in Indian higher education institutions, and explores the status of implementation of CBCS reforms in the universities and colleges in different disciplines and at different levels. The study reveals that the implementation is partial and slow; Universities and colleges in many states are in the transition phase and some have initiated the introduction of CBCS at undergraduate level in the current year only. The challenges faced by the institutions for introduction of CBCS include structural issues, diverse practices of assessment, inadequate resources and most importantly administrative inertia and management concerns.

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Introduction

The higher education system in India has been striving for improvement in the quality of higher education in order to prepare an educated, competent and skilled workforce for the twenty first century. The target to achieve the gross enrolment ratio (GER) of 30 per cent by 2020 and improved quality through the initiated academic reforms, among others, are the intended goals. In this regard, strategies to align academic practices and standards of higher education system in the country with the ones followed in higher education institutions in other countries, are being developed. Introduction of recent academic reforms focussed under the Twelfth Plan period (2012-2017) and the initiatives outlined under the Rashtriya Uchchattar Shiksha Abhiyan (RUSA) plan 2013 include transition to a semester based academic calendar, introduction of a choice based credit system and examination and assessment reforms. The University Grants Commission (UGC) has framed guidelines for adoption of the Choice Based Credit System (CBCS) programme for all the undergraduate and postgraduate level degree, diploma and certificate courses under the credit system awarded by the central, state and deemed universities. Though the introduction of CBCS by the public universities was made mandatory from the academic year 2015-16 by the UGC, transition to the CBCS system is still ongoing and universities are attempting it in phases. The CBCS aims to enhance the quality of education programmes, increased student choice and student mobility in higher education. Moreover, the recommendations of the National Education Policy 2020 (NEP 2020) have reinforced the student's right to choose subjects and multidisciplinary education approach by stating that "CBCS will be revised for instilling innovation and flexibility" (p 38).

The introduction of these reforms is expected to bring students and Indian higher education institutions at par with the global practices, academic standards and evaluation strategies in the present structure of undergraduate and postgraduate education. This would help higher education institutions to become globally competitive and contribute more to national development.

Although the introduction of CBCS has been initiated by a majority of universities, yet the pace is uneven and scope of implementation is limited in terms of education programmes offered at different levels. In this article, Section I presents the conceptual underpinnings of the semester system as well as credits and assessment in higher education; Section II discusses the choice-based credit system introduced in Indian higher education institutions and its status; while Section III focusses on the management challenges in institutionalisation of CBCS in Indian universities and colleges.

SECTION I

Semester, Credits and Assessment: Theoretical Perspectives

Historically, the higher education systems originated in Europe during the medieval period and influenced the models developed by other countries. Consequently, initial American academic system was also patterned on European models, particularly the British, until the mid-nineteenth century. However, in the late nineteenth century, American universities also incorporated the German model and introduced research in the university

as one of its major functions. In fact, during the period both the European and American higher education systems followed the common uniform classical curricular patterns where the student had little or almost no choice of courses. Further, the growing acceptance of student-centred learning and an individual's interest (a student's choice) brought a paradigm shift in the curriculum design. Harvard University initiated the elective system in 1872 with an increasingly wide choice for the senior students initially and, by 1884, this university offered almost complete freedom of choice to all students. Further, in the 1890s, the Harvard University started measuring progress towards a degree on the basis of the accumulation of individual courses rather than completing a total course of study — a system which other universities and colleges started following. This also led to the need for measuring the amount of elective courses, i.e., the workload to be undertaken, for receiving a degree of particular education programme. Thus, stating of credits for the course content of different courses offered as electives ensued. Credit system started gaining foothold towards the end of the 19th century and continued into the early 20th century. Universities and colleges started listing the credits offered for each course and degree requirements were stated in terms of numbers of required credits as well as in course distribution. Further, the credit system was extended to beyond the undergraduate level to the postgraduate programmes in the early 1900s. It was observed that the major reason for changing the uniform classical curricula in the US was the need to make the system more flexible and relevant to the contemporary needs (Regel, 1992). However, the use of credit concept for student mobility or transfer of students from one institution to other emerged quite later.

Semesters and the Semester System

In general, the academic year or session of a higher education institution (HEI) describes the structure of academic activities (i.e., research, learning and teaching, assessment, and administrative activities) in the given year. However, it was observed that the structure of academic year in the higher education institutions varied between different countries. In some of the countries the academic year was structured in 'terms' —generally three in a year — while in others it consisted of two 'semesters,' each spanning over six months). The academic term was also represented by a trimester and quarter in some institutions. The onset of credit system in American universities brought an associated change, i.e., organisation of an academic year into two semesters in the early 19th century as a half-year term of typically 15 to 18 weeks. At present, in the USA, about 95 per cent of four-year institutions operate on a semester calendar, though many universities brought out these calendar shifts in the late 1990s, for instance the Ohio State University system converted from quarters to semesters in 2012. Gordon (2016) reported that many schools in the California State University system plan to change to semesters in the near future. Nevertheless, some universities, viz Cambridge College (Boston, MA), Carleton University (Ottawa, Ontario, CN), Golden Gate University (San Francisco, CA) in the USA and Canada, continue to organise their academic year into three terms, i.e., trimesters while Stanford University has four terms (quarters). The quarter system divides the academic year into three quarters — fall, winter and spring. The fourth quarter, which is considered the summer session, gives students another chance to take more classes and possibly graduate early. A typical quarter lasts 10 weeks, and students take about three classes per quarter.

Traditionally, universities in the UK and Ireland had an academic year which was structured into three 'terms' — each of typically between eight and ten weeks. The basic teaching unit was a year-long course, which would be examined at the end of the academic year, usually in a written examination which alone would account for the marks on which student progression would be decided. The change started in the 1960s, when Stirling University, Scotland, after its opening in 1967, adopted the semester system. The university created interdisciplinary schools which offered modular programmes, in which students had to build up 'credits' in order to qualify for graduation, and these credits were awarded for the successful completion of a 'module;' the modules were the 'courses' offered to students, and within certain guidelines students could put together their own menu of modules leading to their degree. Similarly, the University of Hull adopted semesterisation and modularisation in the mid-1990s and since then this is the only framework in the UK and Ireland. Nevertheless, in the UK, Oxford and Cambridge universities have three terms. In general, semester system has been adopted in the European countries such as Germany, Poland, France, Italy, Austria, etc; yet in some of them the academic year is divided into three terms and most of the universities overlay a semester structure for academic courses on the existing structure (Markevičienė & Račkauskas, 2012). In countries like Canada, Russia, Australia, China and Japan, academic session is divided into semesters.

In fact, the university systems across the world continues to structure the academic year differently. These variations include the adoption of semesters, trimesters and quarters while planning and dividing their academic sessions. A *quarter* system divides the academic year into four terms, a *semester* system divides the academic year into two terms of equal length, and a *trimester* system divides the academic year into three terms of 14 to 16 weeks each with total instruction of 32 to 36 weeks. A trimester system is compatible with the semester system. Adoption of the semester system by a large number of universities in the US has led to problems related to synchronisation of schedules with other schools in the state, and also with other colleges and universities as well as community colleges, which were following the quarter system. Therefore, the universities switched from quarters to semesters. Switching to the semester system gained acceptance as the challenges cited relate to fewer opportunities for the quarter's students for internship and summer trainings and for studying abroad. This is also the case when community colleges and four-year schools operate on a common schedule. In their case, transferring course credits to the four-year institutions is more straightforward, and transfer students lose fewer credits in the process. Further, administrators favoured switching to a common schedule (in this case, semester system) because it reduces the administrative and governing costs. A comparison of academic achievements of students in quarter system and semester system revealed that they differed. This may be attributed to the difference in length of two systems, as the quarter courses are more condensed (10 weeks versus 15 weeks) and students take fewer courses per term (three or four versus five) while in the semester calendars there are more courses and hence less of the scheduling flexibility. In fact, by the end of one's undergraduate career, students in a semester calendar take approximately six courses less than those in a quarter calendar, making it more difficult to try out different majors or to take elective courses. Generally, in a semester calendar, there are fewer courses to choose from and students are exposed to fewer professors (Ramzanali, 2010). On the other hand, it is noted that, in general, more time means better-quality education and overall instruction capabilities in the semester versus quarter debate.

The presentation reveals that if universities have the quarter system it results in enhanced credits for students, while a flexible scheduling of courses helps the faculty in securing more continuous periods or large blocks of time for engaging in research. These factors favour the achieving of intended output. These might be the reasons due to which universities, such as Stanford University, are still continuing with the quarter system.

Semesters Benefits and Drawbacks

Having a semester schedule in the academic year has many potential benefits. The longer duration of the semester course, spanning more weeks than a quarter (i.e., 15 versus 10) facilitates students in adjusting to college life, overcoming a missed class, poor performance, etc. Most importantly, students also have more time with instructors and more time to master the complex material. Given these benefits of a longer term, it was felt that semesters have the potential to increase on-time graduation (Bostwick *et al*, 2018).

Adoption of semesters was also considered favourable from the managerial perspective, since the adoption of standard unit sizes (modules) in a semester-based academic year provides unique opportunities for a wider use of units across different programmes and departments. The semester system lends greater clarity to the process of designing programmes and units, and makes for greater transparency for students about considering unit choices and judging the requirements for success in their programmes. It is also noted that in comparison to the quarter system, administration of a semester system during the academic year requires only two start-up periods per year, as opposed to three in case of the quarters. This reduces the resources to be allocated to management of course registration, and final exam writing and grading and final declaration of results (Bostwick *et al*, 2018).

However, the semester programme too suffers from some drawbacks. The first and foremost drawback to be reported is that it is less conducive to the faculty in terms of availing sabbaticals and maternity/paternity leave as taking off one semester term is one-half of the year versus a third of the year in a quarter system. Similarly, it is much harder for the faculty to stack all of their teaching responsibilities into a single semester term; a common practice among the faculty who teach in a quarter system frees up large blocks of research time. The lack of the option to stack courses may also harm new faculty recruitment (Bostwick *et al*, 2018).

For the students too, there is loss of more time in case of the semester system if they want to switch to major courses and start over, and again take the required prerequisite courses for the new major as compared to the quarter system. Since approximately half of students cite switching majors at least once during their undergraduate education, this is one channel through which the time for graduation may increase by switching to a semester system (Sklar, 2015).

Studying in a semester system may impact the performance of students. As compared to quarters, a semester has a longer term and fewer total courses; this could negatively impact the overall student achievement. If a student performs poorly in a course, it is harder for that student to improve grade point average for going forward because each term carries a larger weight compared with the quarter terms. Also, students have to spend more weeks with a professor which they might not like or in a class that is not desirable to them. Finally, semester calendars have longer breaks during the school year (i.e., winter and spring

breaks), which may make it harder to stay focussed or to recall prerequisite material (Regel, 1992).

One of the major reported disadvantages of the semester system was an increase in the pressure or stress on students due to introduction of two sets of examination in the college academic year. In addition, these exams also appeared to take toll on the extra-curricular or co-curricular activities and the students' social life, including their participation in clubs, societies and the students' union (Regel, 1992). These observations implied that 'semesterisation' is not conducive to a full, rounded college education.

Credits and the Credit System

The efforts for development and improvement in the quality of teaching learning experience have been continuous. As mentioned earlier, the credit system came into existence in the US with the practice of developing and offering of elective courses for increasing the flexibility and to enhance the student choice. These aspects got facilitated with the introduction of semesterisation and modularisation as proactive strategies in the end of the 19th century and early 20th century. Thus the classical curricula, whose major purpose was to train the elite for nearly 200 years, entered a second stage in the middle of the 19th century and became industrial-professional oriented, and it now emphasised on useful knowledge and employment. Further, from the 1960s onward, the era of consumerism brought a third change and introduction of more electives. More courses now initiated the cafeteria approach where one can enter at any point and choose food as per one's whim (Westmeyer, 1985, cited in Agelasto, 1996; Miller, 1990, cited in Agelasto, 1996).

In the second half of the twentieth century, the credit system and its framework gained acceptance and became part of the higher education system in many countries. The credit system introduced in the UK is known as the Credit Accumulation and Transfer Scheme (CATS). In Europe, European Credit Transfer System (ECTS) was introduced in 1989, which has been successfully tested and used across Europe. In recent times, ECTS has developed into a system of accumulation and transfer of credits at various levels — viz institutional, regional, national and European levels — for the students. The implementation of the credit system reveals that even though most of the UK universities or institutions use a common approach to credit, there is no top-down initiative aimed at making the credit systems in US higher Education converge. In Europe, on the other hand, a top-down initiative stemming from the Bologna Process ministerial decision has definitely accelerated the implementation of the European Credit Transfer and Accumulation System (ECTS). Other countries, such as Australia, have introduced the 'National Qualifications Framework' in Australian universities but there is no unified credit system across all institutions. In Canada, there is the Pan-Canadian Protocol on the Transferability of University Credits, while other countries such as Japan and China have also implemented the credit system across their universities.

Credits and Their Characteristics

The course credit arrangement or, in other words, an academic credit system, which can be used as a standard by universities to measure and assess students' work and effort during their Bachelor's, Master's or PhD programme, emerged in the second half of the nineteenth century. This system "provided a means for measuring academic performance in terms of

determining the extent of 'time-on-task' for particular segments of the curriculum. In addition, as a response to demands for improving educational standards led to the emergence of accrediting agencies, which became a powerful force in the late 19th century"(Altbach, 2001, p 2).

At present, academic credit system is a standard practice in many countries across the globe. In the US, the standardised definition of credit was worked out by the Carnegie Foundation for the Advancement of Teaching by examining the academic work in the context of a course credit system. The Carnegie unit or 1 Credit was agreed that one credit should equal approximately 1 hour of direct academic work in the classroom, lecture hall, or laboratory over a semester (approximately 16 weeks). In a university or college, a standard full-time study load is usually 30 credit hours per year. Typically, in order to graduate with a degree, universities expect students to complete 120-130 credit hours for a Bachelor's degree and 30-64 credit hours for a Master's degree. In Europe, depending on the country, one ECTS credit point can equal, on an average, between 25 and 30 study hours in a semester. For example, 1 ECTS is equal to 25 study hours in Austria, Italy, and Spain; 27 hours in Finland; 28 hours in the Netherlands, Portugal, and 30 study hours in Germany, Belgium, Romania and Hungary. In Europe, the workload assigned to one full year of studies is 60 ECTS credits; therefore, 180 ECTS credits are required for earning a three-year Bachelor's degree while 120 ECTS credits are required for a two-year Master's degree (ECTS Guide, 2019). On the other hand, 144 credits and 96 credits are needed for obtaining, respectively, a three-year Bachelor's degree and a two-year Masters' degree in Australia. This shows the variation in credits needed in different countries for similar education programmes.

The implementation of the courses credit system in different higher education systems is found to serve important functions. The primary advantage of credit system is that it enhances learning effectiveness flexibility (or responsiveness) and cost effectiveness or cost management. The student progress is planned and tracked, while teachers have autonomy in designing the teaching methodology and awarding credits for outside classroom study. Students can change their courses midway and credit transfer makes inter institutional mobility feasible. The course credit system not only assesses and measures the student workload and progress but also determines and organises the workload of the faculty, i.e., the amount of teaching responsibilities. These responsibilities vary greatly according to the type of institution, discipline and faculty position or rank. The system helps in optimising the utilisation of both human and physical resources. In some countries, such as the US, funding formulas or the financial support is also based on the student credit hours produced. Another important observation is that the fee or cost of tuition is also associated with the course credits and this fee/charge also varies in public sector or private sector universities (Regel, 1992).

Accountability of stakeholders in credit system becomes greatly enhanced. The responsibility of higher education institutions ranges from developing mechanisms to achieve specified learning outcomes of the study programmes and to monitor student and teacher workload/work in terms of improvements and progress. In several countries, higher education is aimed at preparing students to compete in the job market, to acquire further qualifications for updating their skills and competencies and to make their contribution in national development. In this context, the information regarding the number of students registered in courses offered by the faculty, the pattern of grading, the number of students

dropping out from the courses, student satisfaction and evaluation of teachers is collected and analysed. The analysis can provide means for measuring the work of academia. The system can also allow a determination of the overall accountability and measurement of productivity in teaching and production of degrees and certificates. Most American colleges collect information in relation to the course credit production. Decisions concerning the allocation of resources, including a replacement of professors, etc, may be influenced by the course credit produced by the department or programme. This is essentially driving changes in management of higher education institutions. Thus, the main task of these institutions is to offer quality educational programmes, their efficient transaction and assessment of progress.

Continuous assessment of learning is another significant aspect of the credit system as credit measures student progress. The credit requirements of programmes (degree, certificate) are predetermined. The course is graded by the faculty/instructor, and an evaluation of student progress and work is made in the stipulated time. In general, letter grades are awarded. The system of grading may vary. Specific measures for academic progress may be determined and imposed. The course credit system permits the concerned institutions to maintain continuous assessment of student progress, provide feedback and ensure student progression.

The credit system provides an opportunity to higher education institutions to create the most efficient ways to achieve the required competences related to a specified study programme. In a credit system, the courses offered are the core components; therefore, there is need for creating relevant curriculum and teaching-learning pedagogies. The system can thus act as tool for creating curriculums. The system enables the concerned persons to monitor the results. It affects students and their responsibility to manage their time in order to acquire knowledge. It influences teachers' work, their choice of teaching methods and student activities. The system also affects the management of higher education institutions, which have to find out the most effective ways to achieve the required learning outcomes, defined in study programmes. By monitoring the results of the learning process the management can influence students' and teachers' work in terms of effectiveness, improvements and progress.

The credit system has resulted in enhanced student mobility within an institution or university, at the national level as well as international level. An important result of the course credit system is that it provides a common currency of academic work done by the students which can be accumulated and transferred. This can be used by the students who wish to take transfer to another institution. The assessment of student academic work is done by the institution taking into account performance, quality of courses and the parent institution. For transfer, credits are important as much as they represent the agreed or curricular relevant learning outcomes while recognition philosophy should be based on learning outcomes and their levels with credits representing the indicative length of the completed programme (Markevičienė & Račkauskas, 2012). In order to determine the credits, their equivalence and the learning outcomes, National Qualification frameworks have been developed by various countries. The credit transfer policies and mechanisms being developed in different countries are thus making for an internationalisation of higher education at all levels.

While the credit framework offers a more manageable curriculum structure and a more economic, efficient and effective approach to delivering higher education (Trowler, 1998),

concerns regarding this capitalist style invention have also been raised. It has been observed that credits reduce course work to a commodity status and may result in increasing bureaucratisation, lead to regimentation of the curriculum and of assessment, may lower the standards of higher education as the focus is on quantity and not quality of academic work, etc (Pepper, 1990, cited in Agelasto, 1996). Nevertheless, credit movement is supported by the academicians as they were of the opinion that curriculum could be clearly described, and credits would permit full information concerning exactly what was studied (Altbach, 2001).

Assessment in Credit System

Semesterisation and credit system have had a major impact on the pattern and the modes of teaching-learning and assessment. The credit, as mentioned earlier, in general, describes the volume of learning in a given programme or course component achieved by the student, whereas the level of learning is expressed by the different qualifications or types of programmes in the system such as certificate, diploma, undergraduate, post graduate and others. However, while the achievement of credit expresses that the person has successfully achieved the (minimum) requirements, it does not say anything about his/her performance with regard to these requirements. In general, student performance is expressed in terms of marks, percentages or grades. Traditionally, students' performance was measured through the end term written, oral, practical examinations. However, in several cases, unit tests, assignments, term papers and project works were included in the components of the measurement procedures and mechanisms developed. Most universities and institutions of higher education in Western Europe and North America based the assessment of their students wholly on "internal evaluation," following the principle that "those who teach should evaluate." In Australia, many students do not experience examination as their evaluation is based on assignments. On the other hand, in India, end-of-term examinations are the norm for every student. Invariably the methods of assessment have undergone change after the introduction of credit system. Learning is now being described in terms of learning outcomes, i.e., it is outcome-based education (OBE). As OBE is learner centric in its approach, it requires a major shift from teacher centric curriculum and pedagogies to learner centric curriculum and teaching pedagogies. Assessment methods and techniques would play a critical role in determining the progress achieved by students who are being taught through varied teaching methods in the classroom. As a result, the assessment of student learning or performance would also need innovative methods, activities, assessment reports in order to assess the learning outcomes attained by the students after auditing the course.

The OECD (2008) defined assessment as a systematic process of collecting information about the students' progress towards the learning goals. However, assessment methods have also undergone change. Since assessment plays a critical role in assessing the student performance and improvement, it needs to be carried out through a combination of internal and external evaluation of knowledge, skills and competencies. Representation of assessment of student performance levels is generally done through a score guide or assessment rubric "which is a tool used to interpret and grade students' on any kind of work against criteria and standards" (UGC Report of evaluation reforms). They can be marks, percentages, letter grades, or simply pass/fail. In fact, to ensure transparent and coherent

information on the overall performance of the individual student, grades are analysed. Different grading scales have been adopted by higher education institutions.

Assessment procedures and processes designed for evaluation and reporting of student performance in new curricular structures/credits and semester systems include certain modes of external and continuous internal assessment as well as grading procedures. The grading system associated with the credits is significant as they differ significantly among countries, within a country, between institutions, disciplines or even between departments of the same HEI and influences translation of credits.

SECTION II

CBCS in Indian Higher Education Institutions

During the last two decades, efforts to improve the quality of higher education in the country are continuing at a fast pace. The increased focus on learner/student centric education is one of the important components of these reforms. Introduction of semester system and credit system are important initiatives in this regard. The adoption of CBCS by the universities gathered pace after the UGC mandated its introduction in all the undergraduate and postgraduate programmes from the 2015-16 academic sessions onward. Nevertheless, variation in implementation of CBCS among different universities is very large.

In this context, this section attempts to unpack the CBCS system and the extent of implementation of semester and credit reforms in public institutions, namely the centrally funded and state funded institutions, universities and colleges. It also explores the credit allocation of education programmes —both general and professional courses — at the undergraduate and postgraduate levels. Another aspect under study is the of the challenges faced by these institutions for an implementation of the choice-based credit system. The methodology and approach involved website analysis, survey questionnaire, interviews and focus group discussions with faculty and students for collection of data from primary and secondary sources.

The Genesis

Higher education sector has witnessed unprecedented expansion in the post-independence period, especially during the last two decades of the 20th century. According to the AISHE Report (2019-20), there are 1,043 universities, 42,343 colleges and 11,779 stand-alone institutions; total enrolment has been estimated to be 38.5 million while the number of teachers has grown to 15,03,156. The GER at present is 27.1 per cent. This widened access to higher education over the years has been accompanied by a number of academic reforms initiated by the UGC. One of these reforms for improving the quality of higher education was the introduction of semester and choice-based credit system in the year 2015.

The UGC articulated the need for developing a flexible higher education system for the students. It observed that "Majority of Indian higher education institutions have been following the system which obscures the flexibility for the students to study the subjects/courses of their choice and their mobility to different institutions. There is need to

allow the flexibility in education systems, so that students depending upon their interests can choose inter-disciplinary, intra-disciplinary and skill-based courses. This can only be possible when choice-based credit system (CBCS) an internationally acknowledged system is adopted. The choice-based credit system not only offers opportunities and avenues of learning beyond the core subjects for holistic development of an individual (UGC, 2015, p 2). As a result, introduction of the CBCS was made mandatory in all the public universities from the next academic session, i.e., 2016-17. At present, the transition to CBCS by different universities is continuing and is at different stages of implementation.

Looking back, it may be observed that introduction of CBCS had its seeding period. In the post-independence period, it was mainly the establishment of higher education institutions which received attention from the policy makers. Although already existing universities were following the traditional pattern of an annual examination involving internal and external evaluations, examination reforms were initiated in the 1960s and 1970s. As a result, the newly set-up institutions exhibited an exposure to newer concepts, in addition to being mentored by the different reputed universities of the United States of America and Europe. The reforms, including semester system, continuous internal assessment and end-of-term examinations, were implemented in all the professional institutions and professional faculties or departments of most of the conventional universities. Thus, the professional institutions established during the period, namely, the Indian Institutes of Technology (IITs) and Indian Institutes of Management (IIMs), Jawaharlal Nehru University (JNU), etc, adopted the semester system for developing their programmes while a majority of the conventional universities, namely those of Delhi, Bombay, Calcutta, Madras, Andhra, Mysore, Pune, etc, followed the annual system of examinations. Nevertheless, some universities did adopt the semester system for professional and engineering courses, while continuing in the annual mode for the liberal arts programmes. In fact, the Manonmaniam Sundaranar University was the first in Tamil Nadu to introduce this CBCS pattern in university departments from 1996. Madras University also followed. Autonomous colleges in Tamil Nadu, with one or two exceptions, had also adopted this choice-based credit system around this time. In the next 10 years, almost all universities in Tamil Nadu were following the CBCS. But, yet, there is no uniform pattern followed by these institutions. The universities in Karnataka, such as Kuvempu University and Bangalore University, also introduced the credit system. The credit system was implemented for degree courses affiliated to the Bangalore University during 2004-05.

Meanwhile, a few universities in the last few decades adopted the semester system, using a system of credits, though the general universities continued, by and large, with teaching in annual mode (Rajivlochan and Rajivlochan, 2018). However, those universities which introduced the semester system did it in selected courses and programmes, based on the experiences of the other universities. For instance, the University of Delhi (DU) had a semester system (no credits) in postgraduate science courses and professional or engineering courses saince the late 1970s onwards. Mysore University adopted it in engineering courses in 1967. In the University of Mumbai the semester pattern was followed in BSc IT and BE courses. Pondicherry University also followed, with introduction of the CBCS in PG programmes in 1992-93. The emphasis on semester system by NKC, Yashpal Commission and UGC caused the idea to flow into the Eleventh Five Year Plan (FYP) with an aim to improve the quality of higher education. The Eleventh FYP (2007-2012) advocated the need for all Indian academic institutions to introduce examination reforms based upon

the credit-based semester system, and evolve a system of grading that is in consonance with international practices so that grant of equivalence could be facilitated by adopting the appropriate credit transfer mechanisms, etc. In 2008 the UGC asked universities to take necessary steps to introduce the semester system at the undergraduate level vide its circular DO No. F.1-2/2008 (XI Plan) dated 31 January 2008. It also put forward its action plan for academic and administrative reforms for all the universities and specifically urged all the central universities, again in March 2009, to initiate these reforms.

Thus, the introduction of structural reform in academic degree programmes in all universities and colleges in India virtually started in 2009. The central universities and state universities in many states in India embraced the semester system at undergraduate and postgraduate levels. In this process, the UGC introduced the CBCS system which is a student centric system, and thus the traditional annual system was replaced by the semester system. The key areas include semesterisation of curricula; standardisation of examinations; reformation of syllabi in the form of modules, and switching over from the numerical marking system to the grading system. This move by the UGC was aimed at bringing higher education in India in conformity with the best academic practices and standards being followed globally. Nevertheless, in some states, state universities and state governments were resistant to its introduction while in many universities it was implemented only for selected courses and not all. This situation of partial implementation is still continuing in many universities even after more than a decade.

Structure of Choice Based Credit System

The introduction of academic reforms received a still greater push under the Ministry of Human Resource Development's 2013 Rashtriya Uchchatar Shiksha Abhiyan (RUSA). The RUSA initiatives build on plans first circulated in 2009 under the UGC's Action Plan for Academic and Administrative Reforms. These academic reforms were designed to promote more responsive, diverse and flexible learning opportunities through the adoption of the semester system, a choice-based credit system, flexible curriculum framework, assessment and examination reforms.

Universities and colleges in India have traditionally followed the annual academic calendar with evaluation (usually in marks) based on end-of-year examinations. However, many professional and technical institutions and a few universities such as the IITs, IIMs, BITS Pilani, Jawaharlal Nehru University etc, had adopted semester system at their very inception.

The UGC also issued guidelines to facilitate the adoption of the CBCS. An "instructional template for facilitating implementation of CBCS" in 2014 for undergraduate programme was also issued by the UGC. As a result, universities started revising their curricula as per the instructional template. Although no template for postgraduate programmes was issued, universities started implementation with the postgraduate programmes or levels to begin with. The major characteristic of CBCS is that it allows a more flexible learning framework with greater course choices, the ability to transfer credits between institutions, improved quality standards, and greater flexibility for mature students to complete programmes over an extended period of time. It is also expected that in this way the curriculum offered to students would be regularly updated and made more relevant to the current needs. Further, under CBCS, credits are to be awarded on the basis of the successful completion of a course

of study in terms of classroom contact hours and types of content. In this system, one credit is equivalent to 15 clock hours of teaching or, in other words, a semester credit is measured as one lecture (one hour) per week over the duration of the semester, a minimum of two hours of tutorials a week, or one practical session per week. A course may be developed to combine all the three components — lecture, tutorial and practical. The specific credit make-up of a course will vary from subject to subject and from institution to institution, based on the curriculum design and the desired learning outcomes. In addition, marks-based assessment of coursework is weighted at 25 marks per credit or 100 marks for a four-credit course.

In general, credits allocated to different programmes range as below:

Programme	Credit Range
Undergraduate degree programme (three years)	120-150 credits
Undergraduate technical programs (four years)	150-240 credits
Master's programme	100-120 credits
Technical master's programme	150-180 credits
Research degrees (MPhil, MTech, LLM)	50-60 credits, with 25 credits for thesis
Doctoral degree (coursework)	25 credits

Source: Developed from UGC Guidelines.

The structure of programmes (UGC, 2015), as constructed, includes:
- Core Course (compulsory)
- Elective Course (courses which can be chosen from a pool of courses):
  - Discipline Specific Elective,
  - Dissertation/Project and
  - Generic Elective (GE) Course)
- Ability Enhancement Courses (AEC) (two types):
  - Ability Enhancement Compulsory Courses (AECC) --- Environmental Science, English Communication/MIL Communication; and
  - Skill Enhancement Courses (SEC) --- These courses may be chosen from a pool of courses designed to provide value-based and/or skill-based knowledge.

The structure also provides for options for coursework and self-study projects, if desired and allowed by the department or institution. It is evident that this structure provides an opportunity to students to diversify their study experience and develop a broader knowledge base outside their core discipline. Thus, the paradigm shifts towards student-centric higher education.

The introduction of the CBCS also called for the introduction of a new assessment and grading system so as to improve student choice and academic mobility in Indian higher education institutions. It was expected that the semester-based assessment system would

lead to better assessment of students through combination of continuous internal and external (end term) evaluation. For this purpose, the UGC recommended that the relative weightage of continuous internal evaluation may range from 25-40 percent. Internal evaluations would include essays, tutorial presentations, lab work and term papers. End-of-semester evaluation would seek to assess the skills and knowledge of students, moving away from examinations that require students to memorise and reproduce information. Further, to bring uniformity in evaluation system, the UGC formulated guidelines for uniform grading system and computation of the Cumulative Grade Point Average (CGPA) based on students' performance in examination (UGC, 2015). The UGC recommended that the cut-off marks for Grade B shall not be less than 50 per cent and for Grade B+, it should not be less than 55 per cent under the absolute grading system. Based on the 10-point scale, letter grades, grade points and their performance description prescribed are given below in the Table 1.

TABLE 1

Grade and Grade Points

Letter Grade	Grade Point	Performance Description
O	10	Outstanding
A+	9	Excellent
A	8	Very Good
B+	7	Good
B	6	Above Average
C	5	Average
P	4	Pass
F	0	Fail
Ab	0	Absent

Source: UGC Guidelines 2015

Current Status of Implementation of CBCS

The current status of implementation of CBCS system in the public institutions of higher education (HEIs) of the country reflects wide variations. Based on the extent of implementation of Semester/CBCS, the degree awarding institutions may be categorised into the following groups.

Group A: The institutions who have adopted CBCS in all programmes of studies include the IITs, IIMs, NITs, IIITs, IISERs and many central universities (e.g. Jammu, Himachal Pradesh, Rajasthan, Karnataka, JNU, MANUU)

Group B: These are institutions/universities that have adopted CBCS partially in some programmes of studies but not all programmes of studies. A large number of universities has introduced semester and credit system for post-graduate courses in the university

departments, are in process of introduction of CBCS in undergraduate courses in the affiliated colleges in the last 2-3 years, or in the session 2018-19, and some have introduced in 2019-20 session. In addition, these universities continue to have some educational programmes in annual mode, e.g., at the undergraduate level in B El Ed and BEd courses at the University of Delhi

Group C: The third group consists of universities and their affiliated colleges which have not introduced semester and/or credit in undergraduate programmes in humanities, sciences and commerce while undergraduate professional programmes are offered in semesters and credit. For example, UG programmes in colleges affiliated to Pune University, Maharashtra. The UG programmes are in annual mode in affiliated colleges of state universities in Bihar and a few other states.

Group D: A few states such as Kashmir, Himachal Pradesh and Madhya Pradesh introduced semester and credit system but have been facing representations by the teachers, students and unions for rolling back the CBCS system at the undergraduate level in affiliated colleges and their programmes. Despite the representations, CBCS is continuing in the institutions and colleges of Kashmir. Major reasons cited by the faculty are problems in implementation of CBCS system mainly due to lack of infrastructure, shortage of faculty, conflicts in the region and weather conditions. In addition, it was pointed out that the higher education system is not yet adequately prepared to manage such a system, resulting in problems related to holding on examinations and prolonging of course durations and for students. As a result, only non-professional UG and PG and a few professional courses like MEd are running under CBCS, while the rest are continuing as usual. The colleges in the state are facing problems, particularly in case of inadequate infrastructure and subject experts for teaching in various disciplines. The large enrolments in colleges make it difficult to do justice with the CBCS learning outcomes. Inadequate physical and administrative infrastructure creates hurdles in conducting of exams and declaration of results in time thereby increasing the duration of a degree.

Some of the examples related to introduction of CBCS in different universities are as below. In the North Eastern States, NEHU implemented CBCS in 2008 in Master's degree programmes (at postgraduate level) in arts, sciences and commerce and introduced it at the UG level from 2016-17. In Maharashtra, the University of Mumbai is planning to introduce CBCS in its UG and PG programmes in a phased manner, while it introduced credit and grading system in undergraduate and postgraduate programmes of engineering in the year 2012-13. Pune University introduced CBCS in engineering and PG courses, while its UG courses are under the semester system. On the other hand, Calcutta University has introduced CBCS for UG courses in the 2018-19 academic session and for PG courses in 2017-18, in university departments and affiliated colleges. Maulana Azad National Urdu University introduced CBCS in 2016-17 at all levels, i.e., UG, PG and doctoral level.

In states like Madhya Pradesh, Bihar and Haryana the decision to implement took long; it went up to 2018. Most of the universities in these states are following the annual mode at UG and PG levels, though engineering and other professional institutions have semester system, for example, the Barkatullah University and Patna University. Both the universities planned to introduce it in the forthcoming academic session, i.e., 2019-20. Patna Girls College (an autonomous college), which is affiliated to Patna University, also introduced CBCS from the academic year 2019-20 while other colleges are offering UG courses in annual mode. One of the significant reasons for introduction of CBCS by the universities and colleges

is that they want to get better grades of accreditation too, as CBCS is at present the prerequisite for NAAC accreditation. In Karnataka, Bangalore University introduced the semester system in 2004-05. Similarly, in Goa, semester system was adopted since 2011-12 for post-graduate courses and from 2016-17 for undergraduate courses. In case of the University of Rajasthan, BA, BSc and B Com programmes are running in annual mode while BBA and B Voc are in semester mode. For PG programmes, the courses are in annual mode as well as in semester mode with grading. After the decision about introduction of CBCS, the university pulled out of it in 2015-16, at the last moment, citing lack of teachers and infrastructure (October 2017, *TOI*, Jaipur).

It is evident from these examples that the implementation of CBCS in various universities across the country is at varying stages. There are institutions who implemented the system more than twenty years back; on the other end, there are institutions that are in the process of implementation of semester system and/or have recently implemented it from the 2019-20 session. As per the UGC plans about implementation of CBCS from academic year 2015-16, the higher education programmes in the institutions of the country were to shift towards learner centered education by 2019, with increased interdisciplinarity and flexibility, thereby having direct influence about enhancing the quality of higher education.

Credit Allocation of Academic Programmes

The CBCS system has now been introduced in many educational programmes offered by a large number of universities. As mentioned earlier, under the CBCS system, the UGC recommended uniform credit requirements for courses being offered at different levels. These credits are to be accumulated through choice of courses under the academics. The UGC guidelines provided for credit allotment to various courses in combination of compulsory core courses, elective courses and foundation courses, which can be compulsory or elected. Yet, it is observed that the credits required for completing an undergraduate and postgraduate degrees varies from one institution to other. Essentially, it implies that the academic load for the students vary for a similar degree across the universities.

Undergraduate General Education

The data collected from the sampled institutions in the latter half of year 2018 revealed that for successful completion of undergraduate three-year programme (general/pass course/honours), the credits range from 120 to 148 credits. In fact, it appears that all the central universities and some state universities (GGSIP University, University of Mumbai and University of Calcutta) are offering programmes having 120 credits, as recommended by the UGC, while some state universities are reflecting variations. The undergraduate honours programme carries higher credit allocation as compared to the general/pass course undergraduate programmes. At present, many state universities are in the process of implementation of CBCS at the undergraduate level, i.e., in the affiliated colleges. Some introduced it in the session of 2017-18 while some were to do so from the academic year 2019-20.

TABLE 2

Credit Allocation of UG General Education Programmes

Institution	Undergraduate Programmes (UG) 6 Semesters Credits			Assessment
	BA/BSc/B Com General/Pass course	BA/BS./B Com Honours	B Voc (Vocational)	
Maulana Azad National University of Urdu	20*6=120			Marks CGPA
Patna University: Affiliated Colleges	Annual	Annual		Marks
Patna Women's College (Autonomous College)	CBCS to be introduced in some courses from 2019-20			Marks CGPA
University of Delhi: Colleges	120	140	180	Marks CGPA
GGSIP University	120	120-126	192	Marks CGPA
University of Goa	132	148		CGPA
Bangalore University	104			
University of Mumbai	120		180	
SP Pune University	6 semesters			Marks
NEHU, Shillong	120			CGPPA
Ravenshaw University (and All State Universities)	132	148		CGPA
Pondicherry University	120		180	CGPA
University of Calcutta	120	140		CGPA

Source: Field Survey 2018-19

Undergraduate Professional Education

Further, the credit requirements for undergraduate professional courses are kept at a higher level as compared to the general undergraduate courses. The credit allocations for the undergraduate professional courses also show varying trends for the similar duration courses. Table 3 below depicts credit requirements for two-year, three-year and four-year

courses from the available sample. For instance, in case of Bachelor of Education degree, only MANUU has introduced credit system while all the other sample universities are continuing with the annual mode or semester mode and has marks-based assessment pattern. Similar diverse situation exists in other three-year professional courses. In case of four-year BE/B Tech courses, credits range from 145 in University of Calcutta to 223 in Pondicherry University. The credits required for completion degree not only differ among different types of institutions, i.e., central universities, state universities and institutions of national importance, but also among the universities belonging to same state as well as same category. The integrated courses offered by some universities also follow the same trends.

TABLE 3

Credit Allocation of UG Professional Education Programmes

Institution	UG Professional Courses Semesters and Credits			Integrated Courses (10 semesters) Credits
	2 years	3 years	4 years	5 years
	B Ed.	BCA/BBA/ B Mass Com 6 semesters	B Tech. (8 sems) B El Ed	BA/BSc/B Ed/ BA LLB (Hons)
Maulana Azad National University of Urdu	B Ed 80	BBA	150-160	BA LLB (Hons) 232
Patna University	4 semesters	BBA (6 sems) LLB (6 sems)	BFA (8 sems)	
Patna Women's College	54	BCA Annual		
Central University of Patna				BA/BSc/B Ed 120 (76+44)
Delhi Technological University			173	
University of Delhi	Annual Marks 1200 (2 years)	BA (Hons) Multi Media And Mass Communication 140	BE 176 B El Ed Annual	

Cont……

			B Tech 145-155 (plus 15 non-graded credits)	B Tech/M Tech. (Dual)10 credits less than total of B Tech and M Tech
IIT Delhi				
GGSIP University	92	BCA 160	B. Tech 205	B. Arch 300 B.A.LLB 280
IISERs				BS MS 144
University of Goa	B Ed (2 years) Annual, marks	LLB 6 sems, Marks BCA (2019-20) 6sems, 132 credits	BE (8 sems)	BA B Ed/BSc B Ed (8 sems), marks
Bangalore University	semester	104	B Tech 175 BTech (Hons) 175+20 credits from MOOCs	BA LLB sems, marks
University of Mumbai	semester, marks			
SP Pune University	semester, marks		B Tech 190	
NEHU, Shillong	semester		B Tech 176	BA LLB semester
Pondicherry University	(1 year) Annual	BCA sems	B Tech (Electrical, Electronics Engineering) 223 Info. Tech 220	B A B Ed 252 BSc B Ed 252
Doon University	annual marks			
Kumaun University	annual marks	semester marks		
University of Calcutta	B Ed, semester marks	BBA (Hons) 144	B Tech 145	BA LLB 180

Source: Field Survey 2018-19

Postgraduate Academic Programmes

Universities initiated the introduction of semester system at the postgraduate level at the behest of the UGC. Resultantly, at present implementation of CBCS at PG level has taken place among a large number of departments/universities as compared to CBCS at the undergraduate level. Further, UG level courses are majorly in affiliated colleges (which are more in number) and it requires a bigger initiative on their part. The credits required for

successful completion of PG programmes also reveal large variations. For instance, for a four-semester PG course in the Central University of South Bihar, credits vary from 72 (MA History, M Tech) to 100 (MSc Physics). A Masters in Computer Applications course is of 144 Credits in MANUU, 136-138 in DU, 120 credits in Goa University, 150 in Pune University (see Table 4).

TABLE 4

Credit Allocation in Post-Graduate Programmes/Courses

State	Institution	MA/MSc/M Com (4 Semesters)	MCA/MBA/ M Tech (4 Semesters)	M Ed (4 Semesters)	LLM
Andhra Pradesh	Maulana Azad National University of Urdu	MA 72 MSc 88 M Com 90	MBA 100 MCA 140 M Tech 96	88	
Bihar	Patna University PG	100	MCA (6 sems) MBA 100 MJMC 100	84	Annual
	Patna Women's College	Annual			
	Central University of South Bihar	Development Studies 76 Economics 74 Pol Sc & IR 80 History 72 Mathematics 76 credits Statistics 80 credits Physics 100 credits Chemistry/Biotech/ life Sciences 80	MA Com & Media Studies 80 Computer Science/M Tech-72	80	26 (2 sems)
Delhi	Delhi Technological University		M Tech 80 credits MBA - semester		
	University of Delhi	MA/MSc-Marks, semester M Com 80 credits	MCA 136-138 (6 semesters) MBA (IB) marks	Annual Marks	

Goa	University of Goa	64	MCA (6 Sems) 120 MBA 100	80 (4 sems)	48 (4 sems)
Gujarat	Saurashtra University, Rajkot		MBA (4 sems) 92		
Karnataka	Bangalore University	80	100		
Maharashtra	University of Mumbai	96			
	SP Pune University	MSc 100 credits MA/M Com / MA Fine Arts 64 credits	MBA/M Tech/Technology 100 credits 3-years MCA/MSc (MCA) 150 credits		LLM-64 credits
Meghalaya	NEHU, Shillong	72	M Tech 68 MBA semester marks		
Puducherry	Pondicherry University	72-108 credits	MCA 113 MBA 103 M Tech 72	42 (2 sems)	
Sikkim	Sikkim University	64	MBA 128 Mass Com 80		
West Bengal	University of Calcutta	MA/M Com 88 MSc 80	MA Journalism and Mass Communication 96 MBA 130 MSc Computer Science (4 sems) 84	M Ed	

Source: Field Survey 2018-19

Thus, it is evident from the sample data that large variations exist in credit allocations for UG and PG education programmes or courses. They have major implication on equivalence and credit transfer for students. The intended incorporation of student mobility and flexibility in the higher education system of the country is yet to be reached.

Assessment

Since the inception of universities and colleges in India, higher education has remained largely examination oriented with year-end system of examinations. The assessment of the performance of students is done usually on the base of examinations conducted at various stages –unit tests, midterm, end-term semester etc. and is reported in terms of marks, percentages and divisions. Some of the universities convert these marks to letter grades

based on an absolute grading system. The implementation of academic and structural reforms, under the Eleventh five-Year Plan included introduction of new assessment and grading system along with CBCS to improve student choice and academic mobility in Indian higher education institutions. It was expected that the semester-based assessment system would lead to better assessment of students through combination of continuous internal and external (end term) evaluation. For this purpose, the UGC recommended the relative weightage to continuous internal evaluation may range from 25-40 per cent. Internal evaluations would include essays, tutorial presentations, lab work, and term papers. End-of-semester evaluation would seek to assess the skills and knowledge of students, moving away from examinations that require students to memorize and reproduce information. Further to bring uniformity in evaluation system, UGC formulated guidelines for uniform grading system and computation of the Cumulative Grade Point Average (CGPA) based on students' performance in examination (UGC, 2015). The UGC recommended that the cut-off marks for Grade B shall not be less than 50 per cent and for Grade B+, it should not be less than 55 per cent under the absolute grading system. Based on the 10-point scale, letter grades, grade points and their performance description prescribed are given below in Table 5.

TABLE 5

Grades and Grade Points

Letter Grade	Grade Point	Performance description
O	10	Outstanding
A+	9	Excellent
A	8	Very Good
B+	7	Good
B	6	Above Average
C	5	Average
P	4	Pass
F	0	Fail
Ab	0	Absent

Source: UGC Guidelines 2015

Grading System

As mentioned earlier, a majority of universities and their affiliated colleges have implemented or are in the process of adopting the CBCS and grading systems in their courses or programmes as per the UGC's mandate. Nevertheless, it is observed that multiple approaches are being followed by universities and colleges across the country. In fact, at present the performance of the students is reported using the conventional system of marks secured in the examinations or grades or both. Keeping this in context, the grading systems adopted by different universities were examined and it was found that there are marked variations across the colleges and universities in the numbers of grades, grade points, letter-grades used which creates difficulties in comparing students across

the universities and colleges. The grading system adopted by different universities is depicted in the following Table 6.

TABLE 6

Assessment under CBCC in Different Universities

Institution	Grading system	CGPA grade point	Final result/ description/ division/class	Pass percent	Internal assessment: End of semester assessment	Percent spread for highest grade/division
Andhra Pradesh						
Maulana Azad National University of Urdu	9 Point: O, A+, A, B+, B, C,P,F, Ab	4-10	CGPA Nine descriptions	≥40	30:70	O≥90
Bihar						
Patna University PG CBCS	7 Point: O, A++, A+, A,B+, B, F	5-10	CGPA 7 descriptions	≥45	50:50	O≥90
Patna Women's College	Marks, percentage		Three divisions- Distinction, I, II division,			
Central University of South Bihar	10 Point (except education programmes)	4-10	CGPA		50(35+15):50	
Delhi						
Delhi Technical University	10 Point: O, A+, A, B+, B, C, P, F, I	4-10	CGPA			
University of Delhi	10 Pint: O, A+, A, B+, B, C, P, F, Ab	4-10	UG CGPA PG Marks Three divisions (I, II, pass) BEd, B El Ed, MCA-marks	≥40	UG PG 30:70	
JMI	10 Point: A+, A, B+, B, C+, C, F/D	5-10	CGPA 3 Divisions and Pass without division	≥40	25:75(Theory course) 50:50 (lab/practical course) 30:70(MEd course)	A+≥85

Goa						
University of Goa	9 Point: O, A+, A, B+,B, C,P,F, Ab	4-10	CGPA Nine descriptions	≥40	40:60	O≥85
Gujarat						
Saurashtra university, Rajkot	7 Point: O, A, B,C, D, E, F	4-10	CGPA Five class descriptions	≥40	30:70	Highest class ≥70
Himachal Pradesh						
Central University of HP	9 Point: O+,O, A+, A, B+, B, F, Ab, I	5-10	CGPA Nine descriptions	≥50	50:50	O+≥90
Karnataka						
Kuvempu University PG 2010 cbcs	7 Point: A++, A+, A, B+, B,C, D	4.5-≥7.5	CGPA Seven class descriptors including Pass and Fail	≥45	25:75	A++≥75
Bangalore University	9 Point: O, A+, A, B+, B, C, P,F, Ab	4-10	CGPA Eight class descriptors	≥40	30:70	O≥90
Mysore University UG	10 Point: 5, 6, 6.5, 7.0, 7.5, 8.0, 8.5,9.0,9.5, 10.0	5.0-10.0	CGPA	≥40	20:80	10≥95
Mysore University PG	11 Point:4, 5, 6, 6.5, 7.0, 7.5, 8.0, 8.5,9.0,9.5, 10	5-10	Final Qualitative Index based on CGPA- Three class description	≥40	30:70	
Madhya Pradesh						
Rani Durgavati Vishwavidyalaya	8 Point: A++, A+, A, B+, B, C+, C, F		CGPA Eight descriptors		40:60	A++≥90
Maharashtra						
University of Mumbai	7 Point: O, A, B, C, D, E, F	1-7	CGPA	≥40	40:60	O≥70
SP Pune University, UG Engineering (2015)	12 Point: O, A, B, C, D, E, F, AP,FX, II,PP,NP	5.5-≥7.5	CGPA Four Class descriptions	≥40	30:70	O+≥90
SP Pune University, PG programmes including 3-years MCA/MSc(IMCA)	10 Point: O, A+, A, B+, B, C, P, F, Ab	4-10	CGPA Eight descriptors	≥40	50:50	O≥80

Meghalaya						
NEHU, Shillong Masters	7 Point: 9, 8, 7, 6, 5, 4, 0 No grades	4-9	CGPA Seven descriptors, two divisions and pass	≥40	25:75	Grade point 9≥90
Odisha						
Ravenshaw University (and all state universities)	10 Point: O, A+, A,B+, B,C,D,F, Ab, M (Malpractice)	4-10	CGPA 10 descriptions	≥40	20:80	O≥90
Sikkim						
Sikkim University	10 Point: (O, A+, A, A-, B+,B,B-,C+,C,C-	4-10	CGPA 4 divisions i. Pass: 4.0 in Honours and 3.5 in Pass. ii. Second Class: 5.0-5.9 iii. First Class: 6.0-6.9 iv. First Class with Distinction: 7.0 and above	35-40	50:50	O≥95
Uttarakhand						
Doon University	9 Point: O, A+, A, B+, B, C,P,F, Ab	4-10	CGPA Nine descriptions	≥40	30:70	O≥85
Kumaun University	Marks only		Three divisions First division: ≥60% Second division: ≥ 45% Third division: ≥ 33 %	≥33	25:75	
West Bengal						
University of Calcutta	8 Point: A++, A+, A, B+, B, C+, C, F	3-10		30-40	20:80	A++≥90

Source: Field Survey 2018-19

An analysis of the data indicated that except three universities, namely NEHU, Mysore University which is giving numerical grade and Kumaun University which continues to gives marks, all other universities have introduced letter grades and grade points. Again, some universities have mixed approaches, i.e., for some annual programmes marks are awarded. Further, almost all the universities convert the marks obtained into grades based on an

absolute grading system. Delhi Technological University and IITs use relative grading systems.

Another significant point observed is that in some universities grade points differ in case of education programmes offered by the university. For instance, Mysore University has different grade points for UG and PG programmes. Similarly, the Central University of South Bihar allocates different grade points for different programmes. (See Table 7.)

TABLE 7

Grade Points in Central University of South Bihar

Central University of South Bihar							
Grade	Grade Point	BA B Ed/ BSc B Ed	BA LLB	MA	MSc/ M Tech	M Ed	LLM
A+	10	90 and above	85 and above	85 and above	90 and above	90 and above	90 and above
A	9	80 to <90	75 to <85	80 to <85	85 to <90	80 to <95	85 to <90
A-	8	70 to <80	65 to <75	70 to <80	75 to <85	70 to <80	75 to <85
B+	7	60 to <70	60 to <65	60 to <70	65 to <75	60 to <70	65 to <75
B	6	50 to <60	55 to <60	55 to <60	60 to <65	50 to <60	60 to < 65
B-	5	40 to <50	50 to <55	50 to <55	55 to <60	40 to <50	55 to < 60
C	4	-	45 to <50	40 to < 50	45 to < 55		50 to < 55
F	0	<40	<45	<40	<45	<40	<50

Source: Website https://www.cusb.ac.in

Further, it is evident from Table 6 that letter grades associated with different point scales do not display any common or uniform understanding. For example, B on a 5-point scale might denote different per cent distribution of marks than B on an 11-point scale. The grade point associated with a grade is an absolute number in a majority of cases, whereas in some cases grade point is given in ranges. Also, on different point scales, grades associated may give different distributions in terms of the range of percentages and also mean differently in terms of qualitative description such as outstanding, excellent, very good, good, average, pass or fail. For example, the percent distribution of the Grade O is considered as outstanding above 90 per cent marks in some, while in other universities getting above 70, 75, 85 etc is considered outstanding. So, a student obtaining grade O having 75 per cent marks may not be considered as outstanding in another university where the definition of outstanding is above 90 per cent. This reflects the problems coming up during a measurement of the learning and about the equivalence of grades among students from different universities. The conversion formulas for converting marks to grades, arriving at semester grade point average and cumulative or final grade point average, vary and, in some cases, they turn out to be very cumbersome process. This may create more anomalies as, in general, the UGC prescribes B+ as equivalent grade to 55 per cent on a 7-point scale, but what is its equivalent grade on a 9- or 11-point scale is not specified. In addition, the UGC

template has not provided the formula for conversion of CGPA into grade or percentage. Since the formula for calculating CGPA varies among different universities, to assess grade or percentage through conversions would create issues regarding measures of learning as well as for calculating the equivalence for credit transfers/mobility.

Internal and External Assessment

In Indian higher education system, as stated earlier, examinations have been the primary means to evaluate the students' learning or academic performance. Since the adoption of semester system, the mechanism of assessment includes both continuous internal assessment and end of semester examination. In general, a student experiences examination-based assessment to the order of about 70 per cent to 80 per cent and other assessment experiences based on assignments, projects etc are of about 20 per cent to 30 per cent. Nevertheless, it is observed that this share of internal and end-of-semester assessment vary within the university at the UG and PG levels, and also among universities. Many universities, as reflected by the above table, have adopted 50:50 ratios in internal and external percentages too. Further, the university departments and colleges are responsible for internal assessment while the parent university grades end of semester examinations. However, while the end of semester examinations for programmes offered in affiliated colleges are conducted by the university, autonomous colleges organise their own exams.

Credit Transfer

Credit transfer and recognition is an important element of a flexible and responsive higher education system. The ECTS explains credit transfer as a process that allows credit awarded by one higher education awarding body to be recognised and counted towards the requirements of a programme at another institution. In other words, it allows credit gained on a particular programme to contribute towards the requirements of a different one. UGC guidelines for implementation of CBCS observe that "it is necessary to introduce uniform grading system in the entire higher education in India. This will benefit the students to move across institutions within India to begin with and across countries. The uniform grading system will also enable potential employers in assessing the performance of the candidates" (UGC, 2015, p 3). Further, in this regard, the UGC has provided guidelines for evaluation system and computation of the Cumulative Grade Point Average (CGPA) based on a student's performance in examinations. At present, a few universities are in the process of development of detailed policies for equivalence of degree and credit transfer within the university departments and between institutions are. For instance, Pune University, Pondicherry University and NEHU, have formed committees for looking into the problem of credit transfer and some other issues. However, the Association of Indian Universities (AIU) is the national organisation which provides degree equivalence for the student mobility in the country — for both domestic and international students.

SECTION III

Management and Implementation of CBCS: The Challenges Encountered

The universities and colleges in India are in the transformation phase at present due to introduction of various academic reforms initiated by the UGC in the last decade. The introduction of choice-based credit system with an intention to promote learner-centric, inter-disciplinary, flexible and broad-based education has started taking roots in the colleges and universities. Credit transfer to ease student mobility is also shaping up as institutions are developing a policy of equivalence and transfer. However, institutionalisation of CBCS in the universities and colleges is raising issues, and mechanisms are being developed to address them. The following paragraphs attempt to highlight the challenges faced by the administrators and academics/faculty as well as students from different universities and colleges during the implementation of CBCS.

Implementation of CBCS: Structural Constraints

The academic reforms ushered during the Eleventh and Twelfth Five-Year Plans for improving the quality of higher education in the country included semester system, choice-based system, grading and others. During the discussions it was observed that the adoption of these reforms by all the universities and by colleges affiliated to them was not only challenging but also constrained due to complexities of the Indian higher education system. As a result, the implementation of these reforms was not uniform and started in piecemeal approach. Although many universities introduced semester and credit system at the post-graduate level in the early years of the 21st century, yet its introduction at the undergraduate level started, by and large, only after the UGC made it mandatory in 2015. Adoption of these reforms at the university level requires them to become a part of the concerned University Act, ordinances and statutes. The role of state governments is significant as in many states there is a common Act for all state universities. In addition, the institutional management structures also differ among universities as they relate to the type of the university and therefore follow diverse procedural mechanisms. Thus, administrative processes and procedures take a long time to become ordinances and statutes, leading to delays in implementation both at university and college level. As mentioned earlier, some state universities were not able to move over to semester and choice-based system due to their administrative setups, e.g., the universities in Bihar. Some state governments have been able to implement the system, such as those in Gujarat, Kerala and other south Indian states, while in most states its implementation is partial. As a result, some courses in the university are continuing in the annual or semester mode and others in the CBCS mode. There are states which are facing representations for rolling back to annual mode, e.g., from those in Himachal Pradesh, Punjab, Madhya Pradesh and Kashmir. Major reasons cited for these concerns include inadequate infrastructure (physical and administrative), teacher shortage, etc. Institutional inertia and unpreparedness in terms of inadequately equipped libraries, laboratories, classrooms, etc, are among the major factors for resisting the change. Forcing

universities to adopt CBCS, a structural change in the institution, got associated with the issue of autonomy — institutional as well as academic autonomy.

Curriculum

Curriculum design, development and transaction are the backbone of every higher education programme. The process and practices involved in curriculum development for programmes offered in universities and colleges includes constitution of expert groups for different subjects. These subject groups have faculty representatives from the university departments, some teachers or faculty of the concerned subject from the affiliated colleges, and professional and academia from other institutions. The curriculum is developed and presented before the Board of Studies and then the Academic Council for approval. The model curriculum to be taught under CBCS was developed by the UGC and universities were expected to develop their curricula with maximum contextual/locally relevant modifications of 20-30 per cent. The discussions and observation reflected that even the curriculum, key component of academic matter, has become more uniform and standardised. In addition to the concern for local relevance of the curriculum, the increasing student diversity in the classroom is also becoming a challenge for the teacher. Unfortunately, the continuing concerns relate to the way the curriculum or syllabi of annual examination have been split into two and need much more attention in terms of it being a complete package for an elective or core course. The division of the syllabus needs to be done scientifically. The syllabi of core, foundation courses, and those of generic and elective subjects need to be in continuity and flow from one semester to the other. The apprehensions related to the quality of curriculum are very high. There was an observation that the study load for the students is higher in CBCS mode than annual mode. This is due to the increase in number of papers though the content is limited. This has also impacted the extra-curricular and co-curricular activities of the students. On the other hand, the UGC's drive for developing learning outcome-based curricula for all CBCS courses is a move towards improving the curriculum and graduate outcomes.

The Cafeteria Approach: Choice of Subjects

The CBCS allows students to choose inter-disciplinary, intra-disciplinary courses, skill-oriented papers (even from other disciplines according to their learning needs, interests and aptitude); it thus allows more flexibility for students. Yet in actual sense the implementation of choice is limited. A majority of the students and teachers from different institutions reported that the elective papers offered are limited and are directly related to the availability of staff and infrastructural resources. Offering a choice of subjects to students in actual sense is limited. For instance, in universities and colleges seats are fixed for each course, so accommodation of all students who want to study a particular subject is not feasible. This restriction is also placed with a view to balancing the workload of the faculty. Unfortunately, the more the number of students in a class, the more is the workload of copy checking for the teacher. This also impacts the teaching pedagogy, course coverage within stipulated time, regularity of classes, and timely and constructive feedback to students. In order to offer a choice to students, the CBCS has found better acceptance in postgraduate subjects than at the undergraduate level. Colleges are facing major problems in this regard.

Many universities are offering open electives in a particular semester, e.g., Kerala University, Bangalore University, NEHU etc. In the affiliated colleges of Bangalore University, choice-based courses are scheduled on Saturdays so that students can move, while in Goa University, affiliated colleges are situated far from each other, so attending classes for opted subjects, where the choices are in different colleges, becomes difficult. Many a time students choose a particular paper as they are comfortable with it or it is more scoring; even the faculty teaching the paper may be one of the reasons. It is implied from the discussion that many factors are limiting the choices and its implementation has not led to substantial changes in the choices available to students. Many times we find instances about lack of genuine implementation of the CBCS in private affiliated colleges. What is essentially needed is a mechanism for monitoring of choice to the student which is the core of the system.

Diverse Assessment Practices

Assessment of student performance reflects the extent of defined learning outcomes/objectives achieved. The core concern emerges due to non-existence of well-articulated and clear-cut assessment policy at the university level. In case an assessment policy is there, it is skeletal in framework. For instance, if the total marks for each course = 100 per cent, then Continuous assessment (C1) = 15 per cent marks, Continuous assessment (C2) = 15 per cent marks and Semester End Examination (C3) = 70 per cent, while the C1 and C2 are carried out after completion of 50 per cent course and 100 per cent course respectively and then the final end of semester exams. These assessments may be based on tests, assignments, seminars, case study, field work, project work, etc. The emphasis is more on individual assignments, term papers, and projects. There is lack of cooperative and group work learning. Students submit their assignments to the respective teacher and teachers, depending upon the availability of time, read those assignments and return them to the students assigning a letter grade. In fact, no university has fully internal assessment-based practice of giving results. The reason underlying the assessment practices, as prevalent in the education system of Indian universities, reveals that it is charged with distrust. Assessment feedback is also not given timely and properly. Every teacher thinks that he/she is the only one who does assess students' learning objectively while others are too subjective and they don't do it properly. Even administration at the top level, senior academicians are most often found commenting that teachers are not trust-worthy. This was the reason cited by the autonomous colleges too for introducing external assessment practices in their college examination. Another important issue raised is that in the semester system, examination and assessment consume larger chunk of time. To overcome these issues, fundamental way is minimising distrust through transparency. The more open teachers are about assessment procedures, about what is required and how grades are awarded, the more comfortable students are likely to be. In many universities and colleges, teachers have started showing the graded end of semester sheets too.

Further, like two other important components of the university education, namely teaching and learning, for the assessment of the third component too, university teachers are left on their own to educate and orient themselves to the processes of assessment mechanisms. There has been no provision for concrete measures to orient the university teachers regarding assessment practices. Consequently, there is hardly any change in assessment practices at the university level. The assessment practices are not flexible at all.

One of the possible reasons may be that university teachers are less informed. It appears that assessment is being considered as a mechanism to pass or fail students; it is not seen as a mechanism to enhance learning or improving teaching learning strategies. At present, the perception is that higher education teachers are more concerned with testing and examinations, and that they need to be oriented towards use of formative assessment as a tool to facilitate and enhance learning. Thus, there is need for provision of assessment education to faculty of universities and colleges. Assessment education would help in understanding about assessment, its goals, different types of assessment strategies (formative, summative and diagnostic, etc), tools of assessment, different online assessment strategies etc.

Inadequate Resources

For implementation of CBCS in the universities and affiliated colleges, a large number of institutions require additional resources and support in terms of infrastructure, technology and human resources — both faculty and administrative staff.

Infrastructural and Financial Resources

A major observation which emerged during the discussions and analysis was about the inadequacy of resources — both physical and human resources. At the same time, it was also observed that financial constraints of the universities and colleges restrict the upgradation and expansion of facilities. It was reported that a large number of colleges have limited space and shortage of rooms and other infrastructure, laboratories and library facilities. Implementation of CBCS requires offering of more courses, while many colleges offer programmes from one or two streams, like Arts, Science and Commerce. Professional and technical programmes are offered in professional colleges which are also dedicated to specific discipline. In such a situation offering of multi/inter disciplinary choices to students is difficult unless they upgrade their infrastructural resources.

Faculty/Teacher Related Challenges

Another major observation was that in most of universities and colleges, a large number of sanctioned teacher positions was not filled. The continuing major shortage of teachers in universities and colleges has not only influenced the extent of choices offered to the students but has also contributed to enhancing of the workload of teachers, especially in undergraduate colleges. In addition to preparation of lectures for different papers/courses, conduction of seminars/presentations, assessment of assignments and projects, maintenance of records, etc, there would be an increase in the time spent on examinations in each semester. Therefore, it is evident that unavailability of specialised faculty to teach interdisciplinary courses and increased workload in terms of teaching hours and related activities, examinations and assessments is a serious concern. As mentioned earlier, limited opportunities for continuous professional development of teachers for teaching, learning and assessment also emerged as one of challenging issue requiring attention.

Management Challenges

Conduct of Examinations

Implementation of CBCS has mandated the implementation of semester system. This shift from annual to semester system entailed the conduct of examinations twice a year, i.e., at the end of each semester. This had implications for not only faculty's workload but also administrative setup of the university, since university conducts examination for all its affiliated colleges. This has also resulted in delays in the declaration of results, delay in the beginning of a new academic session and, above all, reduced teaching time available to the faculty. Further, it was observed that colleges with limited physical and human resources also face the constraint of conducting examinations twice in a year.

Administrative Inertia

Implementation of academic reforms in the universities and colleges follows the procedures defined by their Acts, ordinances and statutes. During discussions with the faculty and administrators, what emerged was the unwillingness on the part of state governments and university administrations, apart from the related procedural matters. All this has led to delay in adoption and implementation of CBCS. Even when implementation of semester system and CBCS was in the initial phase, there was resistance to change because of rigid administrative mindsets. Increase in workload because of conduct of examinations twice in a year with the inadequate administrative staff in institutions was the major concern cited.

Conclusion

In 2009, the UGC initiated the introduction of CBCS in the public higher education institutions including the central, state and deemed-to-be universities. CBCS, a student-centric reform package, replaced the traditional academic annual structure with a semester system. In addition, the assessment process for student performance also underwent a shift from traditional Indian marks system to the credits and grading system in order to measure student performance in SGPAs and CGPAs. Earlier discussions relating to the implementation of CBCS in the universities revealed that despite the UGC's notification mandating its implementation from academic session 2015-16, the progress even in the year 2018-19 was observed to be slow while institutions in different states were at the varying stages of implementation. By and large, universities have adopted the system only partially, i.e., some programmes at both UG and PG levels were still continuing in the annual mode.

Although implementation of CBCS has recently started in some states, yet there are some universities which had incorporated it or were functioning in semester mode way back. The implementation of CBCS in the existing structurally complex higher education institutions has largely remained limited. The analysis of the field data has identified its major reasons as structural constraints, resource constraints, teacher shortage/vacancies, institution level hurdles and inadequate infrastructure, among others. In addition, the shift in the teaching-learning and assessment practices requires investment for faculty development and training of administrators of the institutions. This raises the demand for an increased funding and also calls for fund mobilisation on the part of institutions.

Institutionalisation and revision of the CBCS has been reinforced through the recent National Policy of Education 2020 (NEP 2020). In addition, the government has introduced a unique concept of Academic Bank of Credits (ABC), "an academic service mechanism as a digital/virtual/online entity established and managed by MOE/UGC to facilitate students to become its academic account holders and paving the way for seamless student mobility between or within degree-granting Higher Education Institutions (HEIs) through a formal system of credit recognition, credit accumulation, credit transfers and credit redemption to promote distributed and flexible teaching learning" (UGC Regulation, 2021). These initiatives of the GOI and UGC clearly reflect their intentions for implementation and institutionalisation of the CBCS in the country's higher education institutions. However, fulfilment of this mandate requires strengthening of initiatives at the institution level and availability of resource support in order to achieve the intended goals of making education broadbased and at par with global standards.

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Quality Education and Learning Outcome of Tribal Students: Evidence from Gadchiroli District of Maharashtra

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Abstract

This paper examines the education system, policies, and the quality of education in schools located in tribal areas. Generally, tribal students receive education through Zilla Parishad Schools and Ashram Schools in the state. The study investigates two research questions. First, what types of education do tribes receive? Second, whether they receive quality education or not? This paper uses primary data for quality testing of education, under which two tasks --- reading and writing Marathi, English and Math --- are taken up and analysed.

The school attainments have improved due to the mid-day meal scheme. However, the impact seems to be not up to the expected extent. The educational policies claim to encourage tribal education. However, the analysis shows that tribal children haven't performed well in English, Marathi and Math, in the reading and writing tasks. The non-use of Gondi and Madia Bhasha, dialects of the local tribals, have obstructed their performances. The parents are not aware of the academic quality of their children. The government's education policies need to focus on the regional languages in order to reach out to a large number of underprivileged communities. Even the teachers need to dedicate themselves to sharing the best academic skill with tribal children, and they must consider teaching a noble profession for humanity.

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Introduction

Education has long been an important determinant of the socio-economic well-being of the masses (Hanushek, Brewer and McEwan, 2010). The tribals live in remote places where they have no access to education. Therefore, one needs to look into two major issues. One is of the privision of education, and the other is of its quality. The quality of education is a driver of the progress of any society. In Maharashtra State, tribal children have school education through Zilla Parishad, Ashram*,* and *Eklavya* English medium schools. But, the quality of education in these schools is a matter of great concern (Desai and Kulkarni, 2008; Thaware, 2011: 128). Education witnessed the earliest revolution --- long before the industrial and democratic revolutions. That is why some experts consider education along with the industrial and democratic revolutions that brought essential structural changes in society (Parsons and Platt, 1973; Heredia, 1995: 891). Further, quality education has a significant relationship with economic growth that reduces poverty (Solmon, 1985; Hanushek and Kimko, 2000; Glewwe, 2002: 436). Mahatma Phule[1] and Dr B R Ambedkar[2] also believed in mass education to rectify the social injustices that happened with the underprivileged sections of the society (Rege, 2010: 93; Vasant Moon, 417).

The evidence shows that education created productive and responsible societies in the western countries. Social revolutions compelled the governments to bring the equality principle in schooling (Ryan, 2003; Henry and Tator, 2006; Mitchell *et al*, 2016). On the other hand, India has been facing social inequality and discrimination due to the caste system in school education.

Socio-economic inequality among tribal sub-groups made it difficult to claim equal rights (World Bank, 1998; Tilak, 1996, 1999; Thaware and Rath, 2011: 148). The studies around the world proved that access to education and quality of schooling explicitly rejuvenates the mental ability of children (Solmon, 1985; Harber, 2004; UNESCO, 2007). Schmidt and McKnight (2012)[3] argued that "*the educational system should ensure that every student, whatever their background, must be exposed to the content that they need to compete in today's society*." The World Economic Forum (2016) explained three channels: the *collective ability of the workforce, knowledge transfer, and boasting capability, which increase* efficiency with the country's higher productivity.[4] Further, investing in education provides a cushion to all walks of people, including the poor, women, and the disadvantaged, generating high-income values. India is still vulnerable in education, as its quality remains an issue (World Bank, 1998: 25-26; World Bank, 2020).

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[1]   It reimagines education as the Trutiya Ratna (third jewel). Refer to Rege, Sharmila (2010): Education as Trutiya Ratna: Towards Phule-Ambedkarite Feminist Pedagogical Practice, Economic and Political Weekly, 45 (44-45), October 30-November 12, 88-98. URL: https://www.jstor.org/stable/20787534 accessed on Friday, 20 August 2021.

[2]   Vasant Moon (ed) (2014): *Dr Babasaheb Ambedkar Writings and Speeches*, Vol 2, first edition, Education Department, Government of Maharashtra, 14 April, 1982, reprinted by Dr Ambedkar Foundation, January, 2014. ISBN (Set): 978-93-5109-064-9.

[3]   Schmidt and McKnight (2012) elaborated it in their experimental study.

[4]   See the report on World Economic Forum, 2016.

This paper discusses about tribal education, its quality and the learning outcome based on the secondary data and a primary survey conducted in the Gadchiroli district of Maharashtra.

Policies for Promoting Tribal Education

The Indian constitutional framework emphasises a reduction in the socioeconomic inequalities among various groups. The Fifth Schedule[5] of the Indian Constitution deals with the development of the tribal areas other than those in the north-eastern states. Some of the articles also reiterate the need of compulsory "free education"[6] for children until they complete the age of fourteen years under Article 45 and "special care"[7] while provisioning education for the Scheduled Castes (SCs) and Scheduled Tribes (STs) under Article 46. Article 46 lays it down in these words:

"The State shall promote with special care the educational and economic interests of the weaker sections of the people, and, in particular, of the Scheduled Castes and the Scheduled Tribes, and shall protect them from social injustice and all forms of exploitation."[8]

Hence, the central[9] and state governments began to promote the tribal education policies[10] through Ashram Schools, Eklavya schools, technical schools, training programmes, skill development training, etc, as presented in Chart 1.

The new National Education Policy of 2019 changed the existing curriculum system, focussing on a reduction of the duration by a year, which allows an early exit window. Some educationalists suggest that multilingualism increases skills (Volker and Anderson 2015; Agnihotri 2020: 43). An increase in public investment in education to 6 per cent of the gross domestic product will undoubtedly encourage new activities. But even the Right to Education (RTE) Act has only slowly reached the remote tribal areas (GoI, 2020; Right to Education Forum, 2020).[11]

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[5] Ten States, namely, Andhra Pradesh, Chhattisgarh, Gujarat, Himachal Pradesh, Jharkhand, Madhya Pradesh, Maharashtra, Odisha, Rajasthan and Telangana, are notified in this schedule.

[6] Article 45 says: "The state shall endeavour to provide, within a period of ten years from the commencement of this Constitution, for free and compulsory education for all children until they complete the age of fourteen years."

[7] Article 46 says: "The state shall promote with special care the educational and economic interests of the weaker sections of the people, and, in particular, of the Scheduled Castes and the Scheduled Tribes, and shall protect them from social injustice and all forms of exploitation."

[8] https://www.education.gov.in/en/directive_principles_of_state_policy_article-46.

[9] Refer to National Educational Policy (2020), Ministry of Human Resource Development, Government of India.

[10] Report of the High-Level Committee on Socio-Economic, Health and Educational Status of Tribal Communities of India, Ministry of Tribal affairs, Government of India (2014). It must be noted that the BTRI training programme is divided into three phases: (i) basic training, (ii) shop floor training and (iii) related instructions (See Annual Tribal Sub-Plan Report 2016-17, p 51).

[11] UNESCO Institute of Statistics (UIS) estimated that 6.2 crores children of school age (between 6 and 18 years) were out of school in India in 2013.

CHART 1

Educational System in Tribal Areas

Educational System in Tribal Areas

Anganwadi	*Zilla Parishad* Schools	*Ashram Schools*	*Eklavya* Model Residential Schools	*Model Schools*

Till the age eligible to admit in 1st std.

- Traditional School
- Available at village or nearby village
- Govt. funded

- *Ashram School is being implemented since 1972-73 for the creating awareness about education and improvement of the education status of STs.*
- The National Policy of Education (NPE) 1986 promoted Action Plan in 1992 to give priority for establishment of Ashram schools on a large scale.
- Criteria: One school for the 5000 to 7000 tribal population in Hilly area and 2000 to 3000 tribal population is for remote area.
- Special Package for tribal children under grant in aid.

- The Govt. of Maharashtra with the assistance of the Central Government Under Article 275(1) of the constitution established
- Entry from 5th Std.
- The objective is to provide quality education to tribes.
- Schools are affiliated to CBSC, New Delhi

- The Model schools are for merit students
- These schools have been set up on the lines of *Vidyaniketan* and *Navodaya Vidyalaya* of central govt.

Vocational Schools

- I) Technical II) Commerce III) Agriculture IV) Food Technology V) Fisheries V) Per Medical
- Generalisation of Vocational Education Training in Tribal IITs. (District Level)
- Establishments of full-fledged BTRI Centers (District Level)
- Generalisation of Tech. Education (State Level)

The experts are also sceptical about the elementary education system that continues to focus on enrolments without its quality (Juneja, 2010: 38; Thaware, 2011: 126). However, Jindal (2015) argues that Eklavya schools and Navodaya Vidyalayas, are increasing the enrolment of the tribal students and improving the quality of the tribal students. Murnane and Ganimian (2014) suggest that well-designed incentives for teachers, who work in remote and tribal areas, help to increase the attendance of the tribal children and then children's skills. Some are also critical about the working of the residential school and amenities in the school premises (Kulkarni, 1980, Thadathil & Danane, 2017). There is an interrelated link between poverty and exclusion from education among the tribal communities. As a result, high dropout rates,[12] low enrolment ratio, poor attendance, poor attainment, etc. found prevalent among the tribals (Hossain and Zeitlyn, 2010).

Education of Tribals: A Review of Literature

However, the question is: do tribal children get educational access in remote areas? The Kelkar Committee Report (2013) described them as socially and economically "neglected communities" as they reside in remote, hilly and forest areas which remains the primary reasons for their backwardness. Access to education itself opens the door for acquiring a skill, which increases efficiency that leads to higher economic growth (Thaware, 2011: 94). The quota system has indeed benefited SCs/STs despite a negative attitude from the upper classes. The dropout rates from elementary to graduate level remains very high (Thaware and Rath, 2011: 188). The quality of education adds capabilities to the present skill, which is a great asset (Drèze and Sen, 2002). The current education system creates a very unusual exclusionary condition for the neglected communities and meaningful participation (Kamat, 2008). Basic education plays a critical role in rectifying the historical injustices and promotes socioeconomic quality among various groups of people. But tribals are still lagging behind (Thaware, 2011: 94-95; Xaxa, 2001). Exclusion in the civil, education and economic sphere is thus internal to the system and a necessary outcome of its governing principles (Thorat and Newman, 2010: 7).

The reality is more nuanced and complex, with most school teachers across the country being undertrained, disqualified, under-compensated, demotivated instruments of a mechanical system of education that was initially conceived as a support to a colonial regime. Even today, this system, dominated by upper castes and forward sections of society, often prefers to strengthen rather than question the status quo on questions of caste, community and gender asymmetry (Batra, 2005: 4347). Dalit students find some problems sitting with upper caste students in school or eating together with them (World Bank, 2011: 17; Nambissan, 2012). Caste-based discrimination continues to be an influential factor in the low educational mobility, despite government programmes that selectively target aid to children from these communities (Secada, 1989). The school education in India has expanded, and enrolment increased, especially in secondary education. But enrolment per cent is still found to be very less as compared to many developed and (developing nations where secondary education is almost universal (Rani, 2007). The current mainstream curricula do not give attention to the sociocultural and economic realities and ideals of ST

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[12] The UN General Assembly Open Working Group (OWG) on Sustainable Development Goals (SDGs) had 30 seats which were shared by a group of 70 Member State representatives.

communities. Deeply embedded caste and social hierarchies have been adverseky affecting the educational achievements among SCs and STs (Sedwal and Kamat, 2008: 23-36). The quality of teaching still leaves much to be desired, as does the curriculum content, which does not consider the realities within which tribal groups live (D'Souza, 2003; Sedwal and Kamat, 2008: 31). In recent years, educationists and scholars in India have expressed greater support for a common school system as the only way to build a more inclusive and egalitarian school system (Sadgopal, 2005). The evidence shows that teachers also neglect and practise discrimination against the children from SCs and STs. As a result, there is a high level of dropout at the primary level that is a major concern for the rationalists. (Drèze and Gazdar, 1997; Batra, 2005; Sedwal and Kamat, 2008: 34). The choice is often limited for the parents from low socioeconomic groups. In effect, as Ramachandran & Saihjee (2002: 1600) have termed it, there is a "new kind of segregation" in place (Juneja, 2010).

The UNESCO first put forward the goal of Universal Primary Education in 1960. It was considered the first of around 50 development goals (Jolly *et al*, 2005). The conceptualisation of quality has narrowed from a broad vision that sought to consider all aspects of an education system to a narrow focus on learning outcomes (Barrett and Sorensen, 2015). Now it is: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all (OWG for SDGs, 2014).[13]

Interestingly, a major tribe like Madia, a primitive tribe living in the Gadchiroli district, speaks its own language, i.e., Madia dialect. Gond is also another tribe in the same district, which speaks a different language, viz the local Gondi dialect. So Marathi has never been their mother tongue. The primary and secondary education system imparts in Marathi and English that tribal children struggle to catch the accent from these languages.

Quality Testing Norms of the UNESCO

The UNESCO considers teaching quality, the curriculum, and student performance for measuring the quality of education. Three broad principles emerge while testing quality norms: these are relevance of education being provided, equity of access and outcome, and the proper observance of individual rights (UNESCO, 2004; Kaagan and Smith, 1985: 24; Scheerens Luyten and van Ravens, 2011). Specifically, the UNESCO's framework[14] of quality testing uses the norms of five dimensions, as follows:

1. *Learner Characteristics:* These include learner aptitude, perseverance, readiness for school, prior knowledge, barriers to learning, and demographic variables.
2. *Context:* It includes public resources for education, parental support, national standards, labour market demands, sociocultural and religious factors, peer effects, and time available for schooling and homework.
3. *Enabling Inputs:* These include teaching and learning materials, physical infrastructure and facilities, and human resources.
4. *Teaching and Learning:* It includes learning time, teaching methods, assessment, and class size.
5. *Outcomes:* It includes skills in literacy and numeracy, values, and life skills.

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13   Refer to UNESCO, 2004, p 36.
14   See the ASER Report, 2018, pp 31-36

Quality Testing Norms by ASER

The Annual Status of Education Report (ASER) by Pratham considers two parameters --- children acquiring foundational reading and simple arithmetic skills. The method assessed all children in the 5-16 age group, irrespective of age, grade, or schooling status. In 2018, the ASER included a 'bonus tool' that tested children in the 14-16 age group on their ability to apply basic arithmetic skills to some everyday tasks.[15]

Reading Tasks

All children are assessed using a simple reading tool. The reading test has 4 tasks:

1. Letters: Set of commonly used letters.
2. Words: Common, familiar words with 2 letters and 1 or 2 *matras*.
3. Std. I level text: Set of 4 simple linked sentences, each having no more than 6 words. These words (or their equivalent) are in the Std. I textbooks of the states.
4. Std. II level text: A short story with 7-10 sentences. Sentence construction is straightforward, words are common and the context is familiar to children. These words (or their equivalent) are in the Std. II textbooks used in all states.
5. While developing the reading tool in each regional language, care is taken to ensure the following: (a) Comparability with previous years' tools with respect to word count, sentence count, type of words and conjoint letters in words. (b) Compatibility with the vocabulary and sentence construction used in Std. I and Std. II language textbooks of the states. (c) The familiarity of words and context established through extensive field piloting.

Arithmetic Tasks

All children are assessed using a simple arithmetic tool. The arithmetic test has 4 tasks:

1. Number recognition 1 to 9 and 10 to 99
2. Subtraction: 2-digit numerical subtraction problems with borrowing.
3. Division: 3-digit by 1-digit numerical division problems with the remainder.

While developing the arithmetic tool for the ASER age group, care is taken to ensure compatibility with the learning outcomes defined for number recognition, subtraction (with borrowing), division (3-digits by 1digit) in state textbooks for Std. I, II, and III/IV, respectively.

Bonus Tool Tasks for a student aged 14 to 16 years

The ASER 2017 'Beyond Basics' survey tested youth in the age group 14 to 16 for their ability to apply basic reading and arithmetic skills to everyday tasks. These tasks included common calculations like counting money, adding weights, measuring length, and calculating the time; specific financial calculations like managing a budget, financial decision making using simple operations, and computing discounts and interest on loans; reading and

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15   See the ASER Report, 2018, pp 31-36.

understanding wrote instructions; and general knowledge. Out of all the questions asked in 2017, four were selected to be administered to 14 to 16-year-olds as a 'Bonus tool' in addition to the basic ASER assessment in reading and arithmetic in ASER 2018.[16] These four questions involved calculating time, applying the unitary method, using simple operations for financial decision making, and computing a discounted price. Each question is mapped to learning outcomes reflected in state textbooks for Std III, V or VII.

ASER (2018) study shows the lower performance of the children in the Gadchiroli district of Std III to VIII as compared with Maharashtra State (Table 1).

TABLE 1

Learning Levels District with State

Sr.	State/ District	Std. III to V: Learning Levels		Std. VI to VIII: Learning Levels	
		% Children who can read Std. II level text	% Children who can do at least subtraction	% Children who can read Std. II level text	% Children who can do division
1	Maharashtra	55.5	44.8	77.5	38.3
2	Gadchiroli	34.2	38.6	55.3	26.2

Source: ASER Study 2018.

Methodology

This study used the following method for quality testing. The first step for this testing is to select a district and sample size. The Gadchilori district was chosen because it is the most backward district in the state, and 96 per cent area is declared as a TSP area.[17] The Madia primitive tribe also lives in this area. The GR[18] of dated 9th March 1990 notified Sironcha, Aheri, Ettapalli, Dhanora and Kurkheda talukas under the Scheduled Area.

The study used a random stratified method to select villages and sample households to identify the children studying in Class 1 standard to 12 standard. The study identified five villages in Charmoshi taluka of the Gadchiroli district. The villages are Singanapalli, Ganpur (R), Made Amgaon, Mudholi Chak No 1, Mudholi Chak No.2. Since tribal hamlets are small and scattered, very few children are available in the villages. But even small numbers were valuable as they live in remote and inaccessible areas. Therefore, 77 sample size for a test is found valuable. Interesting both genders (Male = 42, Female = 35) are captured in the test.

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[16] Refer to the notification issued by Tribal Development Department (1990), Government of Mahahrahstra. See the GR dated 9 March 1990, Government of Maharashtra, Tribal Development Department, Mumbai.

[17] See the GR dated 9 March 1990, Government of Maharashtra, Tribal Development Department, Mumbai.

[18] My English Book Five (Marathi Medium), The Golden Feather, p 6, Alyonushka, p 38, Go and Come, p 63, George Washington Carver, p 76.

TABLE 2

Class-Wise Student Covered in the Study

Class	Total		
	Male	*Female*	*Total*
Class I to IV	16	12	28
Class V to VIII	15	19	34
Class IX to XII	11	4	15
Total	42	35	77

Source: Primary data collection, 2019

Quality Testing as an Experiment

This study uses the following tasks to test and verify whether or not tribal children receive a quality education. This study used the quality testing norms designed by UNESCO and ASER as an above with additional 'writing test' with different tasks. So, this study uses the following tasks.

A. Reading tasks

English: English reading Class 5 Standard book (Marathi Medium) "My English Book Five"[19]. Contents: i. Reading alphabet (A to Z),

ii. Chapter: "The Golden Feather" Unit One, Chapter: "Alyonushka" Unit Three, Chapter: "Go and Come" Unit Five, Chapter: "George Washington Carver" Unit Six,

Method

The study decided to ask the Standard I to IV students to read the English alphabets. Then asked them to read two-letter words. As for the students above Standard IV and up to XII, they were asked to read any chapter of the book mentioned above.

Marathi: Marathi reading Class 5 Standard book "Marathi Balbharti."

Contents: i. Reading Marathi alphabet (*Mulakshare*),
ii. Chapter 4 *Savarpada Express:* Kavita Rout, Chapter 14 *Rashtrasant Tukdojimaharaj*, Chapter 20: *Majha Shaleche Nakki Zalaa*

Method

The study decided to ask to read the Marathi alphabets for standard I to IV students. Then, when asked them to read two-letter words. For the students above standard IV up to XII, asked to read any chapter of the book mentioned above.

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[19] My English Book Five (Marathi Medium), The Golden Feather, p 6, Alyonushka, p 38, Go and Come, p 63, George Washington Carver, p 76

Reading Arithmetic task: Reading numerical tables, counting numbers from 1 to 9 and 10 to 99.

B. Writing Task

English: English Writing Class 5 Standard book (Marathi Medium) "My English Book Five".[20]

Contents: i.   Writing alphabets (A to Z)
          ii.   Writing name of their own and any others

Method

The study decided to ask to write the English alphabets for standard I to IV students and also ask to write own full name and any other's full name for standard I to XII students.

Marathi Writing: Marathi Writing Class 5 Standard book *Marathi Balbharti.*

Contents: i.   Writing own full names and other's full name.
          ii.   Also asked write one sentence from any chapter of the above book.

Methods: The study decided to ask to write Marathi alphabets for standard I to IV students. And also asked to write own full name and any other's full name for standard I to XII students.

Arithmetic Task

Contents: Writing numbers from 1 to 9 and 10 to 99.

Arithmetic test (writing): Solving problems: addition (1 to 2 digit), subtraction (1 to 2 digit), multiple (3 digits by 2 digits and 2 digits by one, 2 digits by 2 digit) and division (3 digits by 2 digits and 2 digits by one, 2 digits by 2 digits).

Methods: For students of standard I to IV, counting numbers, numerical tables, simple addition and subtraction. For students above IV to XII, numerical tables, simple multiplication and division.

Analysis of the Survey Result

Gender-Wise Reading and Writing Skills

The Marathi Reading Test (MRT) shows that about 17 per cent of respondents could read the identified paragraphs of some chapters from the Marathi book. However, girls were found more proficient in this regard than boys. About 60 per cent of respondents were found to be slow readers and a majority of them were boys. More boys found difficulty in reading than girls. Interestingly, about 9 per cent showed "no confidence" to read in a given task, But more girls showed lack of confidence than boys.

Further, as the ST boys generally speak their own languages, they found it difficult to adopt and nurture their development, despite the fact that it is important to get a job in labour market. The English Reading Test (ERT) shows that about 8 per cent of students could read the defined paragraphs of some chapters from the English book. Further, most of the students were found slow readers, while 39 per cent of students found difficulties in

reading. However, very interestingly, 9 per cent of students had no confidence about reading. But there was not much difference between genders in this regard.

The Arithmetic Reading Task (ART) focussed on two parts – reading numerical tables and counting numbers. It randomly tested all such students who was interested to read the numerical table and counting from 1 to 9 and 10 to 99 as per their wish. The data showed that about 43 per cent of students found difficulties in the Arithmetic Task, while 35 per cent were found slow readers. Unfortunately, only 13 per cent were found good in reading the Arithmetic Task while 9 per cent had no confidence in reading the same (Table 3).

TABLE 3

Gender-Wise Reading, Marathi, English and Arithmetic Test

Test	Gender	Reading Test				
		Read	Slow Read	Difficult to Read	No Confidence to Read	Total
	Male	9.5	66.7	16.7	7.1	100
Marathi Reading	Female	25.7	51.4	11.4	11.4	100
	Total	16.9	59.7	14.3	9.1	100
	Male	4.8	47.6	40.5	7.1	100
English Reading	Female	11.4	40.0	37.1	11.4	100
	Total	7.8	44.2	39.0	9.1	100
Reading numerical tables, Counting numbers (1 to 99)	Male	11.9	40.5	40.5	7.1	100
	Female	14.3	28.6	45.7	11.4	100
	Total	13.0	35.1	42.9	9.1	100

Source: Primary data collection, 2019

Regarding the Writing Ability Test (WAT), even though writing is an essential part of the integrated study, most of the tribal students were found slow performers in Marathi writing, while a large number of such students found difficulties in English writing. The Marathi Writing Test (MWT) shows that about 18 per cent of respondents could do the given tasks in Marathi writing, whereas around 57 per cent were found to have slow performance in Marathi writing. Interestingly, very few students found difficulties in Marathi (16 per cent). However, only a few students showed "no confidence" to write in a given task, saying it is "unfortunate."

The English Writing Test (EWT) showed that, unfortunately, only about 9 per cent of students could do a given task in English writing. Most of the students (47 per cent) found difficulties in English writing, while 35 per cent of students were slow performers in English writing. The girls were found comparatively low performers in all English Writing Tests.

The Arithmetic Writing Task (AWT) focussed on two parts – solving the arithmetic problems (addition, subtraction, multiplication, and division). It randomly tested all students with choice and participation as per their wish in the given task. The test showed that about 45 per cent of students find difficulties in Arithmetic tasks, while 38 per cent found a problem in solving the same. Regrettably, only 8 per cent find it easy while 9 per cent shows no confidence in solving arithmetic problems (Table 4 and Chart 1).

TABLE 4

Gender-Wise Writing Marathi, English and Arithmetic Test

| Test | Gender | Writing Test | | | | |
		Write	Slow Write	Difficult to Write	No Confidence to Write	Total
Marathi writing	Male	11.9	61.9	19.0	7.1	100
	Female	25.7	51.4	11.4	11.4	100
	Total	18.2	57.1	15.6	9.1	100
English writing	Male	9.5	33.3	50.0	7.1	100
	Female	8.6	37.1	42.9	11.4	100
	Total	9.1	35.1	46.8	9.1	100
Solving problems (+ - * /)	Male	9.5	38.1	45.2	7.1	100
	Female	5.7	37.1	45.7	11.4	100
	Total	7.8	37.7	45.5	9.1	100

Source: Primary data collection, 2019

CHART 1

Children's Low Performance in Writing
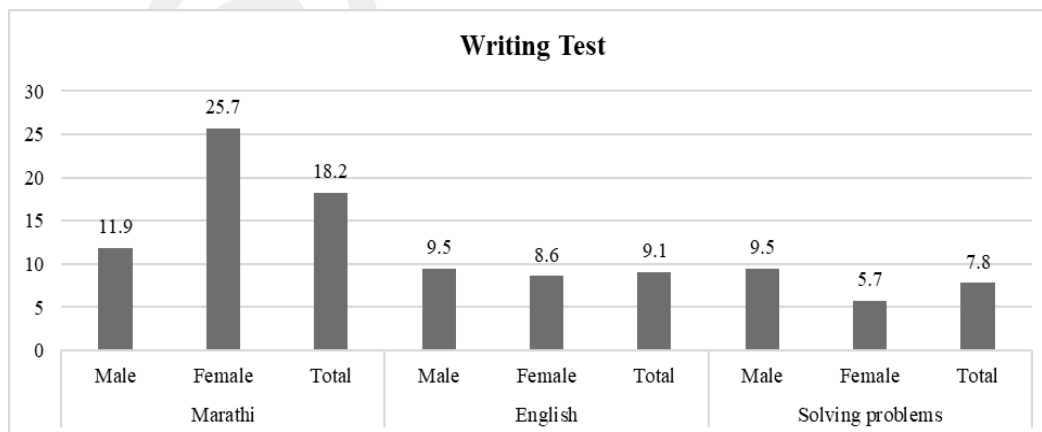
Source: Primary data collection, 2019

Class-Wise Reading and Writing Test Skills

Despite the several educational schemes and programmes that have been implemented, the quality of education is still low; rather it has worsened. The existing literature shows that the dropout ratio from primary school to higher education has been increasing. For this, the worsening quality of education is one of the reasons.

In the class-wise reading test, the collected primary data on the Marathi Reading Test (MRT) show that Class V to VIII students were better at reading Marathi rather than the Class I to IV and Class IX to XII students. Around 23.5 per cent of students from Class V to VIII were good at reading Marathi. Further, we found low performance of the students at the higher secondary level of education --- from Class IX to XII. Unfortunately, only 13 per cent of students from Class IX to XII could read the defined paragraphs of some chapters from the Class 5 standard Marathi book. Further, from this class group, around 60 per cent of the students found slow readers.

Though English is being taught from the standard 1, still we found low performance in English reading and writing. The English Reading Test (ERT) class-wise shows that only 7 per cent of the students from Class I to IV could do the given English reading tasks. As for Class IX to XII students, they too were found very low on this criterion and only 7 per cent of students could read the defined paragraphs of some chapters from the English book of the fifth class. Further, most of the students from each class group, especially Class I to IV, were found to be slow readers, while 39 per cent of Class VI to XII students found it difficult to read English. However, very interestingly, 9 per cent of students had no confidence about reading.

Mathematics is not a compulsory subject in the Arts stream after the 10th class. Further, most of the tribal students from rural areas preferred to opt for the Arts subjects and they had had no use for Maths. However, mathematics is important for many competitive exams and for daily life. From the study in the Arithmetic Reading Task (ART), it was found that the highest 67 per cent of students from the Class IX to XII faced difficulties to do the given arithmetic task (reading the numerical tables). Unfortunately, from this class group, only around 7 per cent of students could do the given arithmetic tasks (Table 5).

TABLE 5

Class-Wise Reading Marathi, English and Arithmetic Test

Test	Class	Reading Test				
		Read	Slow Read	Difficult to Read	No Confidence to Read	Total
Marathi Reading	I to IV	10.7	64.3	25.0	0.0	100
	V to VIII	23.5	55.9	5.9	14.7	100
	IX to XII	13.3	60.0	13.3	13.3	100
	Total	16.9	59.7	14.3	9.1	100
English Reading	I to IV	7.1	50.0	42.9	0.0	100
	V to VIII	8.8	41.2	35.3	14.7	100
	IX to XII	6.7	40.0	40.0	13.3	100
	Total	7.8	44.2	39.0	9.1	100
Reading numerical tables, counting numbers (1to 99).	I to IV	14.3	42.9	42.9	0.0	100
	V to VIII	14.7	38.2	32.4	14.7	100
	IX to XII	6.7	13.3	66.7	13.3	100
	Total	13.0	35.1	42.9	9.1	100

Source: Primary data collection, 2019

In the class-wise writing ability tests, the Marathi Writing Test (MWT) showed that the performance of Class IX to XII students was lower than those of the Class I to VIII students. From this test, it was found that from Class IX to XII, around 60 per cent of the students found to be slow in writing. Even though Marathi is the first language for education, around 25 per cent students of Class I to IV, 9 per cent of students of Class V to VIII and around 13.3 per cent students for Class XI to XII faced difficulties with writing the given Marathi text. Unfortunately, only 7 per cent, 29 per cent and 13 per cent of students, respectively, in the said classes were found good in writing Marathi.

Further, in regard to English writing also, we found low performance on part of the students from Class IX to XII. The English Writing Test (EWT) showed that around 71 per cent for Class I to IV, 35 per cent for Class V to VIII, and 27 per cent for Class IX to XII found difficulty in writing English. Unfortunately, only 7 per cent, 12 per cent and 7 per cent, respectively, among the students of these classes were found to be good in the given English writing task.

Even though mathematics is important for our life and education, the performance of the ST students was found very low. From the Arithmetic Writing Test (AWT), it was found that 46 per cent students of Class I to IV, 35 per cent of Class V to VIII and around 67 per cent of Class IX to XII found it difficult to write the arithmetic test. Unfortunately, very few students (only 7 per cent, 5 per cent and 13 per cent respectively of Class I to IV, Class VI to VIII, and

Class IX to XII) were found to be good in solving the given arithmetic task (Table 6 and Chart 2).

TABLE 6

Class-Wise Marathi, English and Arithmetic Writing Tests

Test	Class	Writing Test				
		Write	Slow Write	Difficult to Write	No Confidence to Write	Total
Marathi writing	I to IV	7.1	67.9	25.0	0.0	100
	V to VIII	29.4	47.1	8.8	14.7	100
	IX to XII	13.3	60.0	13.3	13.3	100
	Total	18.2	57.1	15.6	9.1	100
English writing	I to IV	7.1	21.4	71.4	0.0	100
	V to VIII	11.8	38.2	35.3	14.7	100
	IX to XII	6.7	53.3	26.7	13.3	100
	Total	9.1	35.1	46.8	9.1	100
Solving problems (+ - * /)	I to IV	7.1	46.4	46.4	0.0	100
	V to VIII	5.9	44.1	35.3	14.7	100
	IX to XII	13.3	6.7	66.7	13.3	100
	Total	7.8	37.7	45.5	9.1	100

Source: Primary data collection, 2019

CHART 2

Class-Wise Low Performance in Writing
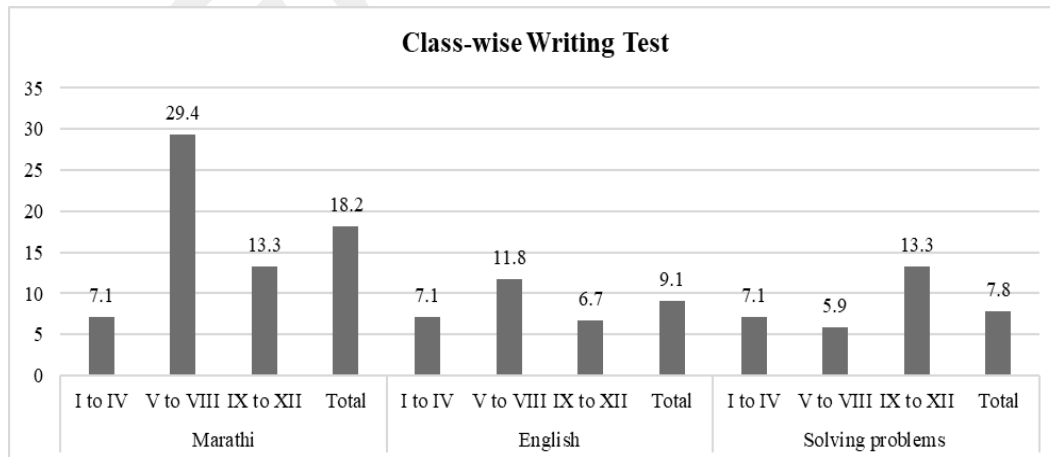
Source: Primary data collection, 2019

Conclusion

The study shows that the literacy rate in the area under study had theoretically improved. The school attainments have improved due to the mid-day meal scheme. However, the impact seems to be not up to the expected extent. The educational policies do seek to encourage tribal education. However, the analysis shows that the tribal children haven't performed well in English, Marathi and Math, in the reading and writing tasks. The Gondi and Madia Bhasha, dialects of the local tribals, have obstructed their performances. The parents are not aware of the academic quality of their children. Therefore, the government's education policies need to focus on regional languages in order to reach out to a large number of neglected underprivileged communities. Even the teachers need to dedicate themselves to sharing the best academic skills with tribal children, and they must consider teaching to be a noble profession for humanity.

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Book Reviews

KAUSHIK, B (Ed.) (2019): *Creating Inclusive Schools: Theory, Process, and Practice*, New Delhi: Sage Publication. pp. 282, Price: ₹ 325.00

Inclusion in education is a dynamic discourse that does well in theory but malfunctions at the level of implementation. This is evident from the present state of our education system, particularly of the school infrastructures, which are in practice more exclusive than inclusive as certain sections are still sidelined. Although successive government policies have led to steady progress in this regard, those from socio-economically disadvantaged groups (SEDGs) continue to face many challenges. According to National Education Policy 2020, there are 32 million out-of-school, in the age group of 6 to 17 in the country and majority of them are from marginalised socio-economic groups and under developed regions. National Education Policy (NEP 2020) addresses this issue and put major emphasis on access, participation and learning outcome of SEDGs.

The book under review is thematically organised into ten chapters, each dealing with a specific domain of inclusion. It attempts to shed light on the barriers and the broader concept of inclusive education by including other non-physical forms of disabilities such as the disadvantaged groups, low-income families, including poor children, siblings of the disabled, and girls within its definition. In the chapter "Conceptualising Inclusive Education," Bharti Kaushik and Abhishek Kumar Srivastava highlight in detail the concept of inclusive education, its need, benefits, and the factors supporting inclusion in education. The authors postulated that to address the issue of inequality and diversity in Indian classrooms — whether in terms of infrastructures or of the techniques of teaching, evaluation and examination, one must lay due emphasis on the inclusion of the children with special needs (CWSN). Although the concept advanced by the authors is fairly understood and perceived, inclusion in education is a dynamic subject that will continue to provoke debates and discourses even in the future. To ensure inclusive education, we need to delve deeper, beyond a mere comprehension of the concepts and go to the issue of their actualisation in practice, no matter what be the pace of progress.

In the chapter titled "Inclusion and Children with Disabilities," its author, Abhishek Kumar Srivastava, segregates and defines the concept of special education, integrated education, and inclusive education. The author argues that the shift in thinking, attitude, and treatment of those people with disabilities has improved in their favour in course of time. However, grassroots analysis reveals that attainment of inclusiveness in letter and spirit is still far from reality. CWSN and those from the more disadvantaged groups are still being sidelined. Society's callous approach and deputing 'inclusion' as the state's responsibility perpetuates their exclusion. Another reason could be the lack of familiarisation with the discourse on disability, which is still at its nascent stage and is yet to find its footing into the system.

The five succeeding chapters — third, fourth, fifth, sixth, and seventh — are authored by Bharti Kaushik, the editor of the book. In the chapter titled "Children with Diverse Needs," she brings to the fore the various forms of disabilities suffered by a child in society. Recognition of siblings of children with disabilities and their plight in this chapter enriches and broadens our scope of looking at inclusion. To corroborate the idea of inclusive schools, the role of teachers trained in inclusive education is significant, which to our context is one critical domain that still requires pragmatic engagement.

The following chapter, titled "Special Needs and Teaching-Learning Strategies," identifies the various strategies to be adopted to address the learning needs of the child as per their disability. This is critical to make classrooms accommodative and inclusive so that the specific needs of the child may thus be taken into account. Failure to ensure inclusiveness in our education system is often due to the overemphasis laid on theory in comparison to practice and due to evasion of responsibilities at the level of practice. The book, in that perspective, acts as a reminder to contextualise the learning needs of the child to address the issue of non-inclusion. Sustaining this practice will enable us to go a long way.

The chapter titled "Inclusive Schools" posits that while much preparedness is observed in case of the physical infrastructure so as to make regular schools more inclusive, the curriculum pedagogy must be suitably adapted and teacher-educators must be trained to move a step closer to reality. The chapter exposes the lacuna in teaching, the infrastructural gaps and the lack of community involvement and support in making our schools inclusive. Although the infrastructural modification of the existing regular schools to an inclusive school may be a viable task, the creation of an ideal inclusive school with the required resources, skills and expertise is a feat that will require a much more vigorous commitment than envisaged. The current state of inclusive education in despair is an indestructible testimony that demands renewed and focussed attention.

In the chapter "Policy Perspective, Provisions and Institutions," the author lists the major initiatives taken by the state to include the CWSN. The author observes that the various acts, institutions and schemes to uplift this section of society have begun to produce benefits. However, the percolation of such benefits for CWSN is not widespread; rather it is limited to those living in the urban areas while those in the margins are often overlooked. Their hope for emancipation is often short-lived, thus perpetually cementing their status quo.

In the chapter "Inclusive Pedagogical Practices," the author accords special attention to making the curriculum accessible to all students by using a learner-centered and need-based evaluation approach. The adaptation of a Universal Design for Learning (UDL) in the classroom settings to address the "one-size-fits-all" conundrum is a good step in this regard. However, to customise a differentiated instruction to address pedagogical exclusivity is an arduous task, but attainable if teachers are efficiently trained and equipped. In addition to making the pedagogy inclusive, the success of inclusive education requires multi-level support. The next chapter of the book under review, titled "Support Services," acknowledges this reality. The author, Hillol Mukherjee, cites the importance of resource support — of material, human, information, and financial resources. In addition to these resources, the parents of a child can act as a mediator in enabling schools and classrooms to be inclusive. Since the major portion of responsibility rests upon the teachers of the school, no support system will see its day without the close partnership of the teachers and the parents.

Present-day regular and inclusive schools are deprived of one or more of these support systems, if not of all.

In the chapter "Assistive Technology and Continuous and Comprehensive Education," the authors, Manoj Kumar and Bharti Kaushik, contend that Assistive Technology (AT) should be viewed as a tool for easing the access to the curriculum, and as an alternative to the traditional education's methods of examination. This is imperative to make the exams free from stress, fear and trauma. Although the authors assert that many AT devices are inexpensive and not complicated, the assertion might not be true at the level of implementation. Due to the high cost that may be involved, customising an alternative solution specific to the context may be worth contemplating. In addition, it may be too overambitious to embark on continuing and comprehensive evaluation (CEE) as an alternative to the traditional method of examination and guarantee the same to be stress-free, as argued in the chapter. In his chapter "Role of Stakeholders," Bharti Kaushik highlights the roles and responsibilities of various stakeholders associated with a school and the critical importance of their mutual collaboration. The author elucidates that understanding the nuances involved will pave a clear pathway for achieving the goals of inclusive education. It is the stakeholders' attitude of neglect and the incoherent relationship amongst them that have made inclusive education a difficult task to accomplish. The responsibilities need to be shared while taking due cognisance of all forms of disabilities that student body may face. Starting from the parents and siblings in the family to all other allied stakeholders within the community, a comprehensive partnership must be established to bring inclusive education to fruition.

The book under review makes an important contribution in the context of NEP 2020 which emphasises inclusive and equitable education for all. The richness of the book lies in its detailed analysis on inclusion in education. It does great justice to the readers by informing them about the concept of inclusive education at a crucial juncture, both microscopically and comprehensively. It is felt that there is immense scope to elaborate the methodology and clearly spell out core objectives at the beginning of the book. The book is a e good reference book for policymakers, administrators, scholars, and educators working on inclusive education.

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