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**Research Abstract**



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## Articles



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CONTENTS

## Editor's Note

Whole hearted greeting to all our readers, contributors, reviewers and others associated with the *Indian Journal of Educational Research*.

The present issue is comprised of eleven articles and two Ph. D. thesis abstracts related to good quality research covering various aspects of education. The topics include diverse issues like elementary education, inclusive education and sustainablity, Science, Technology, Engineering and Mathematics education, Language. In this issue, most of the articles focus on National Education Policy 2020 as an under lying theme. All the papers in the journal are expected to enhance the quality research in education. It is to be noted that our journal can be seen at present in our University website (caluniv.ac.in) through 'Education' Department.

Our whole hearted thanks to the authorities of the University, our colleagues in the department, the contributors, the panel of reviewers and the readers. We are fortunate enough to have a highly esteemed peer review committee who, in spite of their very busy schedule, provided thorough and critical inputs for each and every paper. Special thanks to Dr. Indrani Nath and Dr. Ghazala Nehal for helping us with proof reading and giving the Journal its final shape. As a big family we all tried our best to enhance and sustain the quality of the journal. In spite of utmost care, some limitations and incompleteness may crop therein. It is all due to our constraints to shoulder the responsibility to the perfection.

With warm regards,

Md. Kutubuddin Halder
Professor, Department of Education,
University of Calcutta

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# Collaborative Learning, a New Paradigm in Teaching-learning in the Light of NEP 2020: Attitude of Would-be Teachers

***Mousumi Periwal*** [*] ***and Sumit Paroi*** [**]

***Abstract***

*The world is undergoing rapid changes in the knowledge landscape. To keep up with the changes, NEP 2020 has proposed modifying and restructuring of all aspects of the education system, including its teaching-learning process. So, an effective teaching-learning method should not only enhance cognitive capacities like critical thinking, creative thinking, and problem-solving, but it should also foster social, ethical, emotional, and dispositional skills. Collaborative learning is an educational approach to teaching-learning where learners work together to solve a problem, accomplish a task, or create a product through discussion, negotiation, and joint decisions, making the learning process more meaningful and exciting than the conventional approach. By adopting the survey research design, the present study attempts to explore the attitude of would-be teachers toward a collaborative learning strategy. Three B.Ed. colleges from the Hooghly district were selected using cluster random sampling. Student teachers of B.Ed. were asked to complete a questionnaire to gain insight into their perspectives towards collaborative learning. The findings show that student teachers have positive and favourable attitudes toward collaborative learning and assert that this strategy helps develop a variety of learners' social, ethical, psychological, and academic skills. However, no significant differences were found between the mean scores of male and female student teachers, signifying no difference in attitude between male and female student teachers toward collaborative learning.*

***Keywords*****:** *Attitude, Collaborative learning, NEP-2020, Teaching-learning.*

## Introduction:

National Education Policy 2020 is the first education policy of the 21st century and intends to address the numerous expanding developmental needs of our country.

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To create a new system that aligns with the aspiration and goals of 21st-century education, this policy proposes modification and restructuring of all aspects of the education system, including its teaching and learning. The policy places a strong focus on developing each individual's potentials. In order to achieve this, education must foster the development of social, ethical, emotional, and dispositional skills as well as cognitive capacities like critical thinking, creative thinking, and problem-solving. So, teaching-learning must shift its learning objectives towards making students think critically, solve problems, to be creative and multidisciplinary, innovative, and accepting new material in a new and changing environment. Learning should be experiential, holistic, integrated, inquiry-driven, discovery-oriented, learner-centered, discussion-based, flexible, and, of course, enjoyable (MHRD, 2020).

Classrooms usually use the discussion method as a learning tool. This teaching-method generates meaningful interaction leading to better understanding for the learners. According to Brown (2001), as cited in Ibrahim et al. (2015), the learning experience can be enhanced when there is collaboration among learners. The term collaboration is derived from the mid-nineteenth century Latin 'collaborare' - 'work with'. It refers to working with someone to produce something (Online etymology dictionary, 2001-23). So, collaborative learning is an instructional activity where groups of learners work together to solve a problem, complete a task, or create a product (Laal & Laal, 2012). Here students interact with each other, negotiate meaning and make joint decisions throughout the learning process, producing a learning task with shared responsibility and co-ownership. In collaborative learning, learners can converse with peers, present and defend ideas, exchange diverse beliefs, question others' conceptual frameworks, and actively engage (Laal, Laal, &Kermanshahi, 2012; Slavin, 1980). Learners pool resources collectively and co-construct knowledge through scaffolded interactions, and, thereby, the learning process becomes more meaningful and exciting than the conventional one. Collaborative learning could promote the most effective teaching-learning possible for the greatest number of students.

From a sociocultural lens, a learner is a social being, and therefore, the cognitive development of a learner is embedded in social interactions. Collaborative learning is based on Vygotsky's (1978, 1986) sociocultural theory of Zone of Proximal Development (ZPD), where a novice learner constructs knowledge in collaboration with more capable peers. So, it is through interaction that learning occurs. In such an environment, learners feel less anxious and more comfortable acquiring knowledge and retaining it longer than through other instructional methods. It is widely believed that students learn best when they are actively involved in the

process. So, teaching-learning should be designed in a way that it could foster the active participation of students. Several studies have empirically examined the role of collaborative learning in the classroom. Nevertheless, students' attitude toward collaborative learning strategy seems to be marginalised. Therefore, the present study attempts to explore the attitude of would-be teachers towards collaborative learning strategy. Based on the student teachers' perceptions of collaborative learning, the study outlines the benefits and limitations of incorporating collaborative learning strategy in the classroom.

## Literature Review

### *Collaborative learning*

Collaborative learning is a situation in which two or more people learn or attempt to learn something together (Collaborative Learning, 2023). It is an instructional method in which learners at various performance levels work together in small groups toward a common goal. The learners are responsible for one another's learning as well as their own. Thus, the success of one learner helps other students succeed (Gokhale, 1995). Collaborative learning is also defined as an activity in which students interact, negotiate meaning, and make joint decisions throughout the learning process. It provides valuable opportunities to pool resources collectively and co-construct knowledge through scaffold interactions. So and Brush (2008) added, "Collaborative learning is a form of learner and learner interaction" (p. 319). Laal and Laal (2012) explained that collaborative learning proposes a way of dealing with people emphasizing individual abilities and contributions. According to Laal & Ghodsi (2012), collaboration is "where individuals are responsible for their actions, including learning and respecting the abilities and contributions of their peers" (p. 486). Collaboration is a promising mode of human engagement that has become a 21st-century trend.

### *Students' attitudes toward collaborative learning*

A substantial number of studies have investigated students' attitudes toward face-to-face and online collaborative learning strategies. In a study by Destriana (2018), most students have a favorable attitude toward collaborative learning and claim that it has academic, social, generic, and negative benefits. Compared to asynchronous computer conferencing, students were more satisfied with the face-to-face collaboration process. However, women were more satisfied with asynchronous collaboration than men (Ocker, 2021). Collaborative learning also boosted medical students' positive attitudes toward inter-professional collaboration and confidence in surgical skills. In contrast, veterinary medical students' opinions

remained constant for the scales measuring confidence in surgical skills and collaboration with medical students (Edwards et al., 2004). An exploratory study by Gale et al. (2014) measured the differences in attitudes toward sustainable design and collaborative learning between lower and upper-division undergraduate students majoring in interior design at a Southeastern university. The results revealed that upper-division students held less favorable attitudes toward collaborative learning than their lower-division peers.

Studies (Ku, Tseng & Akarasriworn, 2013; Chatterjee & Correia, 2020) revealed that most students favoured working collaboratively in an online environment. Students view online collaborative work as very relevant and advantageous as a mode of instruction. Remarkably, they value collaborative work in terms of learning outcomes and academic performance improvement (Selles, Munoz-Carril & Gonzalez-Sanmamed, 2015). In another study (Dewi &Muhid, 2021), most students believe that using ICTs for collaborative learning has a beneficial effect on students' attitudes during the Covid-19 pandemic. In addition, women outnumber men in most categories of ICT usage during collaborative learning, although men are significantly more interested in using the internet in their daily lives. Ku, Tseng &Akarasriworn (2013) found three online collaboration factors, such as team dynamics, team acquaintance, and instructor support, that had moderate to high degrees of collaboration with teamwork satisfaction. A research study by Chatterjee and Correia (2020) indicated that a positive correlation exists between collaboration and students' sense of community. However, the degree of correlation was higher among graduate students than undergraduate students.

Although numerous studies have focused on the importance of collaborative learning or the benefits of collaboration in the classroom, there is little research on the perspectives of students and teachers toward collaborative learning. Moreover, is yet to be studied the attitude of would-be teachers towards collaborative learning strategy. Therefore, the present study attempts to explore the attitude of would-be teachers towards collaborative learning.

**Objectives of the Study**

The objectives of the present study can be stated as follows:

I. To understand the concept of collaborative learning in light of NEP 2020.

II. To find out the attitude of student teachers toward collaborative learning strategy.

III. To find out the difference in attitude of male and female student – teachers towards collaborative learning.

## Hypothesis of the Study

The study has tested the following hypothesis:

**$H_0$ 1:** There is no significant difference between male and female student teachers' attitudes toward collaborative learning.

## Methodology

This study followed a quantitative approach to investigate the attitude of student teachers towards collaborative learning strategy. Therefore, a descriptive survey research design has been adopted here to carry out the study.

## Participants

The study was carried out in teacher training institutes in the Hooghly district. From a large number of B.Ed. colleges, only three B.Ed. colleges have been selected using cluster random sampling. The participants were enrolled in the B.Ed. course for the session 2022-2024. They were asked to respond to a closed-ended Google form survey about their feelings regarding collaborative learning. A total of 226 learners completed the questionnaire. There were 59 male and 167 female students. The data collected from these participants were analysed and discussed in the current study.

## Questionnaire

In order to elicit student teachers' views on collaborative learning, a self-made close-ended questionnaire was designed. The questionnaire had 15 questions on a 5-point Likert scale. All the questions were declarative statements where respondents would have to choose their level of agreement with each statement. Face validity and content validity of the questionnaire were ensured in this study through interaction with the faculty members of the Department of Education of Kazi Nazrul University in West Bengal. The questionnaire was distributed to the students via their college WhatsApp group as a Google form.

## Procedure

At first, the study includes a brief discussion on collaborative learning in the light of NEP 2020. To survey the perceptions of collaborative learning strategies, the investigator chose three B.Ed colleges from the Hooghly district using cluster random sampling. Accordingly, a close-ended questionnaire on a 5-point Likert scale was prepared and distributed to the students of B.Ed. A total of 226 responses from ongoing B.Ed student teachers were collected and analysed empirically. To ascertain student teachers' attitude towards collaborative learning techniques, descriptive statistics, including mean, standard deviation, and independent sample t-test were used.

## Findings and discussion

### Student teachers' attitude towards collaborative learning

In this section, student teachers' views and perceptions of collaborative learning have been analysed. The survey questionnaire reflects student teachers' views on the benefits of collaborative learning and the impact of working collaboratively. The responses clearly show that most student teachers embrace collaborative learning and find it helpful in many ways. 96.4% of student teachers prefer to study collaboratively rather than individually, whereas 1.7% prefer solitary study. They even believe that the subject matter is better understood when discussed in a group than studying individually. More than 90% of prospective teachers think that in a collaborative setting, students can interact with peers, exchange different viewpoints, and are actively involved in the learning process. The quantitative data in Table No. 1 also demonstrates that a considerable number of student teachers agreed that collaborative learning enhances an individual's critical thinking and creative potential. Gokhale also (1995) claims that the active sharing of ideas within groups increases interest among participants and fosters critical thinking. Similarly, most student teachers believe that collaborative activity not only helps solve problems beyond individual abilities, but also develops other skills, such as speaking and social interaction. These findings are in line with Laal, Laal, &Kermanshahi (2012) that a collaborative setting builds more positive heterogeneous relationships and encourages diverse understanding.

**Table No. 1: Student teachers' views on collaborative learning**

| SL | STATEMENT | AGREE | | UNDE-CIDED | DISAGREE | |
|---|---|---|---|---|---|---|
| | | Strongly Agree | Agree | Unde-cided | Disagree | Strongly Disagree |
| 1. | Collaborative study is always better than individual study. | 35.8% (81) | 60.6% (137) | 1.8% (4) | 1.3% (3) | 0.4% (1) |
| 2. | One can understand the topic better when there is group discussion than studying alone. | 42% (95) | 52.7% (119) | 2.7% (6) | 2.7% (6) | No one |
| 3. | The collaborative studies engages students more than independent study. | 31% (70) | 61.9% (114) | 3.1% (7) | 3.5% (8) | 0.4% (1) |

| | | | | | |
|---|---|---|---|---|---|
| 4. During the collaboration, everyone exchanges ideas and information with one another. | 47.8% (108) | 46.9% (106) | 4.4% (10) | 0.9% (2) | No one |
| 5. Collaboration encourages critical thinking. | 34.5% (78) | 54.4% (123) | 8.4% (19) | 2.7% (6) | No one |
| 6. Collaborative activity increases creativity. | 38.7% (87) | 56% (126) | 3.6% (8) | 1.3% (3) | 0.4% (1) |
| 7. Each participant in a collaborative study listens to the thoughts and opinions of others. | 26.1% (59) | 66.4% (150) | 5.3% (12) | 1.8% (4) | 0.4% (1) |
| 8. There is no conflict between opposing concepts. | 10.6% (24) | 39.8% (90) | 23.9% (54) | 24.3% (55) | 1.3% (3) |
| 9. In a group, low intellectuals are comfortable sharing ideas and conversing with high intellectuals. | 12.8% (29) | 54% (122) | 17.3% (39) | 15.9% (36) | No one |
| 10. Everyone in a group is given an equal chance to contribute. | 25.2% (57) | 58.8% (133) | 7.1% (16) | 8.4% (19) | 0.4% (1) |
| 11. Learners often get frustrated or impatient during collaborative work. | 11.5% (26) | 30.1% (68) | 17.3% (39) | 40.3% (91) | 0.9% (2) |
| 12. Verbal skills are improved by group interaction. | 35.4% (80) | 58% (131) | 6.2% (14) | 0.4% (1) | No one |
| 13. Collaboration enhances social skills. | 36.7% (83) | 61.1% (138) | 1.8% (4) | 0.4% (1) | No one |
| 14. Collaborative study resolves problems more quickly than solitary study. | 7.5% (17) | 47.8% (108) | 10.2% (23) | 8% (18) | 26.5% (60) |
| 15. It is a lot of fun to study with others in a group. | 37.6% (85) | 54% (122) | 6.2% (14) | 1.3% (3) | 0.9% (2) |

During the collaborative activity, learners feel less anxious and more confident when interacting with peers. Even the student-teachers felt that working in a group could be more enjoyable than doing a task alone. This finding can be substantiated with Panitz's (1999) observation that the learning process becomes

interesting and fun when the students work together. However, 25.6% of prospective teachers believed that a collaborative setting is a conflict zone where opposing concepts clash, Some student teachers (41.6%) agreed that learners became frustrated or impatient during collaborative activities, while others (41.2%) disagreed, and 17.3% were neutral.

Maximum and minimum scores of the 5-point rating scale have been categorically presented in Table 2. It represented the range of score of the students' attitude towards collaborative learning.

**Table 2: Attitude scale based on score**

| **Attitude** | Extremely favourable | Favourable | Neutral | Unfavourable | Extremely unfavourable |
|---|---|---|---|---|---|
| **Score** | 61-75 | 46-60 | 31-45 | 16-30 | 01-15 |

Each student teacher's responses to the questionnaire were scored and calculated accordingly. As a result, it was found that the mean scores of the male and female student teachers were 57.983 and 57.808 respectively. Therefore, the total mean scores of males and females 57.895 reveal that student teachers have favorable attitudes toward collaborative learning. Table 3 compares the male female mean score of attitude towards collaborative learning:

Table 3: Comparison between the Mean scores of attitudes toward collaborative learning between male and female

| **Statistics** | **Male** | **Female** | **Total** |
|---|---|---|---|
| **N** | 59 | 167 | 226 |
| Mean | 57.983 | 57.808 | 57.895 |
| t- value | | 0.275* | |

***Not significant at 0.05 Level**

It is observed that both male and female student teachers prefer collaborative study. They believe that students are actively involved in the learning process as they exchange different perspectives with each other. This active exchange of ideas within small groups facilitates the development of cognitive skills like critical thinking, creative thinking, and problem-solving. Ally (2004) stated, "Working with other learners gives learners real-life experience of working in a group and allows them to use their metacognitive skills" (p.31). According to male and female student

teachers, collaboration builds interpersonal relations and encourages peer diversity and understanding. Only there were some differences in the opinion of getting an equal chance in a group to share and defend ideas as they believe that low intellectuals are uncomfortable or sometimes hesitate to share ideas with high intellectuals. Though opposing concepts cause conflict, both still believed that learners do not get frustrated during collaboration.

Table 3 demonstrates the similar mean scores of male and female student teachers, i.e., 57.983 and 57.808, respectively. Here, the computed value of t, 0.275 is quite smaller than the critical values 1.97 at 0.05 level of significance. So, the result is not significant. The result assures that there is no significant difference between the mean scores of male and female student-teachers, signifying no gender difference in attitude of student teachers towards collaborative learning. Both male and female student teachers have a positive and favourable attitude towards collaborative learning. Both acclaimed the social, psychological, and academic benefits of incorporating collaborative learning in the classroom.

## Conclusion

This study has investigated the attitude of student teachers toward collaborative learning strategy. Most student teachers prefer collaborative learning and find it useful in many ways. According to the views of student teachers, collaborative learning helps to develop a variety of skills, including critical thinking, creative thinking, problem problem-solving, verbal communication, and social interaction, as well as the chance to make friends. Students are also empowered with skills such as leadership, decision-making, trust-building, conflict management, etc. Besides, collaborative learning provides a non-threatening environment for the learners as learning occurs socially through interactions like negotiations and sharing of ideas. However, some student-teachers have views of social anxiety of speak in groups the conflict between high-order and low-order thinking capacity, unwillingness to rely on others, etc. Still, when the learners work together in groups, the learning process becomes more engaging and pleasurable, ultimately leading to success. In the case of collaborative learning, the cliché 'two heads are better than one' holds true. From the study, it can be said that collaborative learning can improve the cognitive, social, psychological, ethical, and dispositional skills that NEP 2020 seeks to integrate to maximize individuals potentials. As a result, collaborative learning has the potential to be a groundbreaking teaching-learning strategy of the 21st-century classroom.

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# Education and Women Reproductive Health: An Interpretation of Their Causal Relationship with Special Reference to Sherpa Women in Sikkim

***Tshering Choden Bhutia* and Ujjwal Bhui****

***Abstract***

*Education is one of the key components for women's development especially when it is related to their health. Educated women are more aware of their health than uneducated women because education provides them with more opportunities like financial security to take care of their basic needs, for example, their health. Reproductive health constitutes a major priority for women because, being women, they undergo many health consequences. Women bear, by far, the greatest burden of reproductive health problems.The Women question in India began in the 19th century when the issue of women became important first among the social reformers, then among the nationalists, and finally in the contemporary period with those including the press who are concerned with development inequality. Women's education not just changes their viewpoint with respect to the valuation of and the number of children, but also increases the age of marriage. In this context, the paper's main emphasis is on the role of education in the reproductive health issues of Sherpa women in Sikkim.*

***Keywords:*** *Reproductive Health, Education, Sherpa.*

## Introduction

Reproductive health is a crucial component of general health and it is an indispensable component of an individual's overall health status and a central determinant of their development. Additionally, it also stands enshrined as one of the fundamental human rights. Therefore, ensuring healthy reproductive system is everyone's right and responsibility(Krishnakumari 2012). Women are at risk of complications from pregnancy and childbirth, they also face risks in preventing unwanted pregnancy, suffer the complications of unsafe abortion, bear most of the burden of contraception,and suffer the complications of reproductive tract infections, particularly sexually transmitted diseases.According to John Dewey

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(1938), "Education is not a preparation for life, rather it is living. Education is the process of living through a continuous reconstruction of experiences. It is the development of all those capacities in the individual which will enable him to control his environment and fulfill his possibilities."

Women constitute half of the total population in India still, they are neglected and deprived of many social rights and privileges. Through education, they should be made conscious of their existing position of dishonour and deprivation. Education prepares an individual for life; it helps one to face life situations successfully.

**Sherpa Community: A Brief Introduction**

There is no unanimity regarding the origin of the word 'Sherpa' but many social scientists, after a thorough research have said that the Sherpa is derived from *serwa* and the word *serwa* is derived from "Sher Khumbu", presentlyknown as "Khumbu"(Bradley 1997).However, few other social scientists believe that the forefathers of the Sherpa used to live in Shalmogang in the Kham (presently Dhirke) province of Tibet. Later on, the word serwa was derived from Shalmogang and Sherpa from the serva. There is another theory that states the reason why these people are known as Sherpa, it is a story in itself. It is said that when they fled southern Nepal to protect their religion, they came into contact with the Kiranti people who used the Khumbu alpine pastures as grazing grounds for their cattle and sheep. A war ensued and after much struggle, the king of that region solved the conflict by permitting the migrant Tibetans to remain there, but as vassals to the locally settled Kiranti inhabitants, who were acknowledged as Jimidars by them. From then onwards, these people began to be called Sherpa meaning people from the east, and the Sherpa themselves called the Kiranti landlords "Jimidar". Even today the Sherpa call the Kiranti of that region Jimi, which means master of the land.

According to the Oxford Dictionary, the Sherpa are the high-altitude porters of the mountains but it has been rectified as an ethnic tribe.

In Sikkim, Sherpa is one of the tribal communities, they mainly reside at the top of the hill. They are very hardworking and mainly engage in agricultural activities, they do terrace farming for livelihood. As they reside in far-flung areas of Sikkim which are geographically dispersed, hence are not easily accessible.Being settled in remote areas in Sikkim, they have to struggle for education and health facilities, mainly for women, at the time of delivery of the child, this phase is very critical and challenging for them, some of them even loose their lives during the procedure. Education is also one of the challenges due

to distanced location of the schools, the majority of Sherpa women have gained education till primary, get married at early age, bear children, and join their husbands for agricultural cultivation.

**Objectives of the Study**

1. To assess the socio-economic conditions of Sherpa women in the selected research areas in Sikkim.
2. To understand the relationship between education and women's health.
3. To know the cultural beliefs and practices regarding pregnancy, childbirth, and postpartum care of mothers among the Sherpa in Sikkim.

**Theoretical Perception**

Ross and Wu's (1995) study reveals that education is connected with great health. They said that education applies its constructive outcome on wellbeing through four wide channels: by affecting work upgrading social and mental assets; empowering way of life and wellbeing practices; and without any mediators. Individuals with more education likewise have better social-mental assets. In addition, they are bound to have more advantageous ways of life contrasted with those with less education.

Krishnakumari (2012) perceives that women should know their reproductive illness along withits symptoms. Reproductive illness is not just biological but it's the amalgamation of psychological, economic, political, and social factors. An illness related to a reproductive organ is not treated as a reproductive illness but as a women's illness. All kinds of taboos, superstitious beliefs, and practices are associated with a woman, which leads to ill health of a woman. Negligence of woman's illness should not be practiced rather there should be reproductive health programs to sensitize women.

Mishra and Mukhopadhyay (2012) have investigated the prevalence of reproductive health illnesses treatment-seeking behavior and its link with socio-demographic correlates among unmarried and married adolescent girls of Sikkim. The factors like age, media, exposure, and economic status emerged as significant correlates of treatment-seeking practices among both married and unmarried girls.

Buck Ace and Witt Riley (2020) in their book '*Education and Women Empowerment*' have focused on the issues like sex disparity, women are not allowed to move out from the private sector, having no say in any matters, and always facing gender inequality. This study mainly emphasized the importance

of women's education and numerous welfare programs for women. It has also highlighted different feminist movements and focuses on the women's health.

**Education and Women's Health**

The education of women is always considered a special favour in rural areas because of illiterate parents. There are also other factors like social taboos and role expectation that limits girls' access to education. Women's education is very important for their own self-reliance with the growth of opportunities, which will make the image of women prestigious. Educating women is a must as they will be more aware of cleanliness, and upgraded nourishment, which enhances their maternal skills and decreases infant mortality. Educated women are more cautious about contraception measures for family planning than uneducated women. Childbearing and rearing for educated women will be more serene, they can give proper guidance to children. Infant mortality at an early stage will be lesser for educated women and their kids are more benifitted as they are taught by their own mothers. The National Family Health Survey in India has demonstrated that the education of women can assume a fundamental role in improving their mind and conduct. Being educated they are better informed than the uneducated women. Their education engages them in four different ways, their support in the family allows them leadership, autonomy, and power over family pay, learning, and socio-political attention in the cutting-edge world.

Reproductive health is very important as women biologically, physiologically, and for other social reasons are more prove than men to reproductive health problems. Reproductive health problems and maternal mortality are important causes of death that weaken women. Women are unable to protect themselves from unwanted pregnancies and sexually transmitted infections including HIV/AIDS and this type of incomplete control over the reproductive process leads to relatively high levels of unwanted child rearing (Jose and Navaneethan, 2008).

**Table 1: State-wise Female Literacy in India (Census of 2011)**

| Sl. No. | Name of the States | Female Literacy(%) |
|---|---|---|
| 1. | Andhra Pradesh | 59.7 |
| 2. | Arunachal Pradesh | 59.6 |
| 3. | Assam | 67.3 |
| 4. | Bihar | 53.3 |
| 5. | Chhattisgarh | 60.6 |
| 6. | Delhi | 80.9 |

| | | |
|---|---|---|
| 7. | Goa | 81.8 |
| 8. | Gujarat | 70.7 |
| 9. | Haryana | 66.8 |
| 10. | Himachal Pradesh | 76.6 |
| 11. | Jammu and Kashmir | 58.0 |
| 12. | Jharkhand | 56.2 |
| 13. | Karnataka | 68.1 |
| 14. | Kerala | 92.0 |
| 15. | Madhya Pradesh | 60.0 |
| 16. | Maharashtra | 75.5 |
| 17. | Manipur | 73.2 |
| 18. | Meghalaya | 73.8 |
| 19. | Mizoram | 89.4 |
| 20. | Nagaland | 76.7 |
| 21. | Orissa | 64.4 |
| 22. | Punjab | 71.3 |
| 23. | Rajasthan | 52.7 |
| **24.** | **Sikkim** | **76.4** |
| 25. | Tamil Nadu | 73.9 |
| 26. | Tripura | 83.1 |
| 27. | Uttar Pradesh | 59.3 |
| 28. | Uttarakhand | 70.7 |
| 29. | West Bengal | 71.2 |

***Source***: Census of India, 2011

TableNo.1shows the state-wise female literacy rate in the 2011 census. The highest literacy rate is 92.0% in Kerala whereas the least literacy rate is 52.7% in Rajasthan as per the 2011census.The government of India has taken various steps and plans especially for women'sdevelopment. Sikkim has a female literacy rate of 76.4% with the least population of 610,577 and needs to prioritizethe literacy of women.

**Government schemes for women's education**

1. *Sarva Shiksha Abhiyan (SSA)*: Sarva Shiksha Abhiyan is a program for Universal Elementary Education for all youngsters from the age group of 6-14 years by 2010.

2. *Kasturba Gandhi Balika Vidyalaya Yojana*: This plan was propelled in 2004,particularly to advance young girl education. There are 350 Kasturba Balika Vidyalaya in which 3.6 lakh young girls are studying. The objective

of the plan is to enhance education among girls having a place in the SC, ST, OBC, and minority categories.

3. *National Program for Education of Girls at the Elementary Level (NPEGEL)*: NPEGEL is a critical segment of SSA. The target of NPEGEL is to elevate the facility, and to encourage the connection of young girls in the field of education.
4. *Janshala Program*: This is a community-based essential education program. The program is attached to making progressive and powerful young girls and children,particularly those of SC, ST, and minority communities.
5. *District Primary Program (DPEP)*: DPEP ensures framework facility and special intercessions for the education of young girls, SC, ST, handicapped, and so on.
6. *Sakshar Bharat*: The principal goal of Sakshar Bharat is to promote adult education, particularly for women, by expanding educational choices.
7. *Mid-day Meal Scheme*: This scheme was started in 1995. The aim of this scheme is to enhance enrolment, participation, and maintenance while simultaneously affecting the dietary status of the children. The Mid-day Meal is a successful motivator program.
8. *Kanya SakshartaProtsahan Yojana*: The point of this scheme is to lessen the dropout rate and to build the enthusiasm of tribal girl students to proceed with their studies. Rs.500 is given to those young girls in class VI, Rs.1000 to young girls in IX, and Rs.2000 girl-students in XI.
9. *Beti Bachao, Beti Padhao*: This program has been functional since22$^{nd}$January 2015. The objective of this scheme is to prevent sexual abuse to guarantee the survival and protection of the girl child, and to guarantee the education of the girl child.

These are some of the educational initiatives by the Government of India for the upliftment and betterment of women. In Sikkim, all these programs are implemented and are functional for the upliftment of women.

**Cultural Beliefs and Practices on Reproductive Health**

The two American Anthropologists Kroeber and Khuckholm(1952) have interpreted that "culture consists of patterns, explicit and implicit of and for behavior acquired and transmitted by symbols, constituting the distinctive achievements of human groups, including their embodiment in artifacts, the essential core of culture consists of traditional (i.e. historically derived and selected) ideas and especially their attached values, culture systems may, on the hand, be considered as products of action, on the other, as conditional elements of future action". According to Edward Tylor (1870) a renowned British anthropologist "Culture is that complex whole which includes knowledge, belief, art, morals, laws, customs and any other capabilities and habits acquired by men as a member of society".

Sherpa community believes in superstitious practices and taboos during pregnancy and childbirth.They believe that pregnant women should not cross the river, not see dead bodies or blood, and physically challenged people as it can affect the baby. All religious rituals and worship are done by "Lamas"- religious heads who are considered to be very sacred and respected by all, at the time of delivery they first consult the lamas for the auspicious date for child's birth and some also ask for the direction so that one can have that psychological satisfaction for the wellness of mother and the unborn child.

**Socio-Economic Profile of Sherpa Women**

The fieldwork for the existing study was done in western and southern parts of Sikkim, namely Oakrey, Ribdhi, Phallidara and Perbing. 100 married Sherpa woman were selected and interviewed by the researcher.

**Table 2: Educational Status of the Respondents**

| Educational Status | Number (%) |
|---|---|
| Illiterate | 19 (19.0) |
| Literate | 1 (1.0) |
| Primary | 29 (29.0) |
| Secondary Pass | 15 (15.0) |
| H.S Pass | 34 (34.0) |
| Graduate | 2 (2.0) |
| **Total (%)** | **100 (100.0)** |

***Source:***Field Survey

Table No.2 illustrates the educational status of selected Sherpa women (respondents). 19.0 percent of them are illiterates,1.0 percent literate, 29.0 percent have completed primary education,15.0 percent of them are secondary pass whereas 34.0 percentare high secondary pass and 2.0 percent are graduates. So, the data in the table clearly show that Sherpa women are not completely literate as there are still some illiterate mothers found among them.

**Table 3: Occupation of the Respondents**

| **Occupation** | **No. of Respondents (%)** |
|---|---|
| Government Employees | 7 |
| Private Employees | 2 |
| Business | 8 |
| Agricultural labour | 75 |
| Homemaker | 6 |
| Self Help Group | 2 |
| **Total (%)** | **100 (100.0)** |

***Source*** **:** Field Survey

The Occupation data of the respondents, reflected the above table (No.3) shows that 7.0 percent of them are government employees, 2.0 percent work in private sectors,8.0 percent do business,75.0 percent are engaged in agricultural activities,and 6.0 percent of them are homemakers who do household chores and take care of the children, and 2.0 percent women are members of Self-Help Groups which help them to generate some income.

**Table 4: Family Pattern**

| **Family Type** | **Number of Families (%)** |
|---|---|
| Joint Family | 24 |
| Nuclear Family | 74 |
| Extended Family | 2 |
| **Total (%)** | **100 (100.0)** |

***Source*** **:** Field Survey

Table No.4 shows the family pattern of the selected Sherpa women. It shows that after marriage 24.0% of the respondents are living in a joint family, 74.0 percent are members of the nuclear family, and 2.0 percent live in the extended family.

**Table 5: Decision Making Rights of the Respondents**

| Have They Decision Making Rights | Number (%) |
|---|---|
| Yes | 79 (79.0) |
| No | 21(21.0) |

***Source*** **:** Field Survey

It is observable from the data in Table 5 regarding the decision-making rights of the selected Sherpa womenin family matters,79.0 percent of them have the right whereas 21.0 percent of women do not have decision-making rights in the family.

**Table 6: Monthly Income from All Sources**

| Monthly Income | Number/Percentage |
|---|---|
| No Income | 6 |
| Below 3000 | 16 |
| 3001-6000 | 31 |
| 6001-10000 | 19 |
| 10001-15000 | 14 |
| 15001-20000 | 3 |
| Above 20000 | 11 |

***Source*** **:** Field Survey

Table No. 6 shows the economic aspects, that is, monthly income of the Sherpa women. 6.0 percent of them have no income, 16.0 percent have monthly income belowRs.3000, 31.0 percent have monthly income of Rs.3001-6000, 19.0 percent have Rs.6001-10000, 14.0 percent of them have Rs.10001 to Rs.15000, 3.0 percent have Rs.15001-20000and the remaining 11.0 percent of them have monthly income above Rs.20000. Most of the income they generate comes from agriculture as these women are very hardworking was also observed that most of their time was spent cultivating their agricultural lands.

**Table 7: Health Status of the Sherpa Women**

| | |
|---|---|
| **Infertility Problems** | |
| Variable | Percentage |
| Yes | 6 |
| No | 94 |
| **Age at Pregnancy** | |
| 15-18 | 18 |
| 19-22 | 47 |
| 23-25 | 17 |
| 26-30 | 12 |
| Above 31yrs | 6 |
| **Place of child birth** | |
| Home | 29 |
| Hospital | 71 |
| **Preference for Birth** | |
| Normal | 91 |
| Cesarean | 9 |
| **Immunization** | |
| Yes | 100 |
| No | - |
| **Breast Feeding** | |
| Yes | 98 |
| No | 2 |
| **Preference of Son** | |
| Yes | 1 |
| No | 99 |
| **Modes of Family Planning** | |
| Self-Control | 8 |
| Condom | 3 |
| Contraceptive Pill | 25 |
| Tubal Ligation | 37 |
| Vasectomy | 6 |
| Injection | 2 |
| Day Maintenance | 19 |

***Source*** **:** Field Survey

Table7 reflects the health status of Sherpa women, mainly at times pregnancy and post-pregnancy period.

The findings of Table 7 emphasize the reproductive health of Sherpa women. In Sikkim infertility is now one of the burning issues, there is always a high chance of having no baby fear at infertility can be observed among unmarried women. As per the data on infertility, it has been found that 94.0 percent of married women have not faced such complications but 6.0 percentof women had infertility problems after marriage.

The age of women when they had their first child, based on the data in the above table 18.0 percent of women fall under (15-18 yrs.), 47.0 percent (19-22yrs), 17.0 percent (23-25yrs),12.0 percent (26-30yrs), and 6.0 percent above 31yrs which states that majority of women were young when they had conceived their first child.

At times of childbirth, 71.0 percent of women preferred to deliver in a hospital and 29.0 percent at home. The procedure for childbirth, 91.0 percent had a natural birth and 9.0 percent of women opted for cesarean. All women were fully aware and had done child immunization which shows that ASHA workers are functional in spreading awareness about the immunization process in those areas.

Motherhood is considered one of the challenging phases, if she cannot breastfeed her child.As a result, 98.0 percent of women breastfed and 2.0 percent could not, due to health issues. When asked about the preference for a son over a daughter and whether family members exert pressure on them for the boy child, such kind of preference for the son was not found among the Sherpa community.

Family planning is also one of the important aspects of reproductive health, good reproductive health means that women are aware of the modes of family planning. Here all women were observing family planning, 8.0 percent of women do self-control,3.0 percent uses a condom, 25.0 percent are into contraceptive pills, 37.0 percent had done tubal ligation, and very interestingly it was found that even 6.0 percent man had done vasectomy, 2.0 percent women had an injection to avoid such unwanted pregnancy and 19 percent women were following day maintenance.

**Conclusion**

Women education in any form is very necessary and has crucial impacts on the health of women. It gives them empowerment, socially and economically, it also makes women mentally very strong. Educated women or educated mothers are more knowledgeable and conscious of certain issues like health and hygiene;

they can give their best to their children. The social life of women would improve a lot if we take a broader outlook in the field of female education.

The condition of Sherpa women living in a remote part of Sikkim has to undergo with so many problems like transportation, health, hygiene, proper sanitation, and safety at times of child delivery.The findings from the field data revealed that many times they left education as per their parents' wish and got married. The investigators would like to recommend that Government should focus more on girl child living in the dispersed area that lacks road connectivity, hospital facilities, and education. Educational sensitization and awareness are a must as it is also observed that they drop out of from school, get married at an early age and bear children. As a consequence, they face many health problems like body ache, urinary tract infections and stomach related issues, and so for the safety of every girl child, higher education is a must for women for them to have a sustainable livelihood.

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# Elementary Education in Urban India: Issues, Challenges and Opportunities

***Madhumita Bandyopadhyay*** and Meenakshi Khandari*******

***Abstract***

*The fast but uneven process of urbanization in India has left a large part of the population without essential facilities including education. Children belong to poor households particularly those stuck in the process of urbanization suffered the most without the basic needs such as food, shelter, health and education as well. Despite many educational policies and schemes, many children from urban areas were deprived of educational facilities. Although recent data indicates improvement in enrolment status of children in urban areas, a huge proportion of children belong to never enrolled or enrolled but currently not attending schools. Inequalities from gender perspective can also be seen in such urban deprived groups which often lead to drop out of girls from school particularly after the completion of primary education. The situation has worsened during pandemic period. In view of above, an attempt is made to find out the existing educational opportunities available for these children and the visible challenges they are facing in their schooling particularly in urban context.*

***Key words*****:** *urbanization, deprived groups, gender, dropout, educational opportunities, elementary education.*

## Introduction

Access to elementary education has become fundamental right for each and every child of 6-14 years of age after enforcement of 86th Educational Act by recent Constitutional Amendment. However, many children are still found 'out of school'. In addition, a large section of children, although get enrolled in school, they drop

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out before completion of their elementary education. These children also include the urban deprived children who along with their rural counterpart, experience exclusion from schooling system to a large extent.

In today's world, globalization has resulted in substantial dependency on market economy that in turn has accelerated the process of industrialization and urbanization. India, like other countries, has witnessed steady increase in urbanization (Govinda, 1995). It has also witnessed fast yet unevin growth of urban population, leaving large part of rural hinterland underdeveloped and devoid of any essential facilities including education. As a result of this, many people migrate to urban areas to avail these facilities. Table 1 has provided the trend in urbanisation during post-independence period.

**Table 1: Urban Population in India: Decadal Change**

| Year | Urban Population | Decadal increase (millions) | Urban to total Population (percentage) | Decadal urban growth (percentage) |
|---|---|---|---|---|
| 1951 | 62.44 | 18.29 | 17.29 | 41.42 |
| 1961 | 78.94 | 13.50 | 17.97 | 26.41 |
| 1971 | 109.11 | 30.17 | 19.91 | 38.23 |
| 1981 | 159.46 | 50.35 | 23.34 | 46.14 |
| 1991 | 217.18 | 57.72 | 25.72 | 36.19 |
| 2001 | 286.12 | 68.98 | 27.82 | 31.47 |
| 2011 | 377.11 | 90.99 | 31.16 | 31.8 |

*Source: Census of India, different years*

Although on one hand, rapid urbanisation has benefited countries, located in developed world, the developing countries, including India, have experienced considerable inequalities which has attributed to currently persisting rural urban dichotomy. According to the decadal census, the urban population in India has increased from 159 million in 1981 to 285 million in 2001which accounted for around 30 per cent of total population in India. This has further increased to more than 377 million in 2011 constituting 31.16 percent of the total population, showing 1.16 percent increase from 2001 census. However, despite increase in population, the quality of life of many people in urban area is still far from satisfactory as there has been substantial increase in urban slums which are mostly devoid of basic facilities jeopardising the socio-economic equity in urban areas. This unequal situation has aggravated more during Covid pandemic period with a drastic influence

on education of children particularly those already living in vulnerable situations. These children have faced more challenges and barriers to access learning opportunities than ever before.

India is home to the 19 per cent of total children of the world. According to 2011 census, India has 472 million children of 0-18 years old out of which 128.5 million children were living in urban areas at the time of census which was 34 percent of the total urban population. Out of these, 52.7 percent are male and 47.3 percent are female which is little less than national average (52.4 percent males and 47.6 percent females). The children in urban areas constitute 27.2 per cent of total child population of country, as per 2011 census. Altogether 26 percent of the total population in urban area belongs to the age group of 0-14 years while in rural India their population is 33 percent. A huge proportion of children in rural as well as urban areas belong to poor households. As per a recent report "Nearly half (47.9 percent) of the Indian households with more than five children have been severely deprived of shelter, water, sanitation, health and education as compared to 7.8 per cent of poor families without children, according to the latest Indian Human Development Survey released on May 11, 2019" (Ali, 2019, para. 2). The report further states that "in rural areas, the poverty rate of households with children is 25 per cent and those without children is 10 per cent; in urban areas the difference is comparatively low: 13 per cent and 4 per cent respectively" (Ali, 2019, para. 10). So, it is a matter of concern that being poor, a large number of children in rural and urban areas both remain deprived of basic needs including education though education has become a fundamental right for children of 6-14 years of age according to the Right to Education Act, 2009 which is being implemented in India since 2010.

**Objectives of the paper**

With the above backdrop, this paper (a) deals with the universalisation of elementary education in urban area with a special focus on education of children from urban deprived group. It (b) reflects on present status of elementary education in urban areas and what educational opportunities are available for children living in urban areas. In doing so, the paper (c) draws on recent data to map the access and participation rates of children in urban areas. The paper also (d) attempts to examine whether the schools in urban areas are equipped with essential physical and academic facilities to provide quality education and (e) the emerging challenges with respect to the universalisation of elementary education in urban areas.

## Methodology

The paper starts with some discussions on earlier researches to reflect on basic issues that are involved in elementary education in urban area. For the purpose of writing this paper, different documents and reports have been used which are available in the websites as well as in the library. Apart from these documents, the existing educational opportunities for children from urban deprived group have been discussed with the help of available secondary data from NSSO, UDISE, etc.

## Earlier Researches

It is evident from different studies and reports (Govinda & Bandyopadhyay, 2011a, 2019) that the enrolment rate in urban as well as in rural areas has increased rapidly but there is a substantial gap between primary and upper primary schooling even in urban areas. Getting enrolled in a primary school does not guaranty poor child to complete his or her schooling. Increased enrolment is compromised by persistently high rates of dropout and poor attendance of children (Govinda & Bandyopadhyay, 2011b; Bandyopadhyay, 2019) although the situation is relatively better in urban areas as compared to rural areas. Like in rural areas, urban girls constitute a large proportion of drop outs and out of school children (Govinda & Bandyopadhyay, 2011a; Bandyopadhyay & Subrahmanian, 2011; Bandyopadhyay, 2019).

Inequalities in education in urban areas, like rural areas, also interface with other forms of social inequality, notably caste, gender, ethnicity and religion. Girls from Scheduled Castes, Scheduled Tribes and Muslim minorities particularly constitute the population of out of school and dropout children in urban area (Bandyopadhyay, 2019). There are also considerable inter-state variations in terms of educational facilities in urban area with an impact on enrolment and drop out in great extent. In addition to different Government reports (NSSO, 2015 & 2019; IIPS & ICF, 2017), several studies (Sinha & Reddy, 2011; Aggarwal & Chugh, 2003; Chugh, 2021) have also found that the children in urban areas particularly from urban slums and poor households remain never enrolled and also drop out due to various reasons which have been discussed later. Many of them do not learn adequately and remain at the risk of dropout or they do not get any benefit from their education even after completion of five years of schooling.

Further, the distressed seasonal migration from the rural to urban is very common in India. This has a drastic effect on the quality of life and schooling of the children of these migrants. In addition, there may be a large section of people living in abject poverty in urban slums and education of children is not a priority for them at this moment. Several studies (Khasnabis & Chatterjee, 2007; Tsujita,

2009; Jha & Jhingran, 2002) point out that many urban deprived children living in slums remain deprived of quality education that impacts on their access as well as regular school participation. In addition, majority of urban deprived children are first generation learners and they have no proper environment at home that can encourage them to attend school. Many of them are enrolled in school but they neither attend regularly nor learn effectively. Engagement of these children in wage labours to contribute to family income also hampers their study and deters them from attending school regularly.

During the last few decades, India has experienced significant increase in literacy rate. It is to be noted that, while the total literacy rate in 2011 is 84 per cent in urban area, it is around 68 per cent in rural area with around a gap of 16 percentage points. This gap was almost double just two decades back. The literacy rate has improved by 9.21% in the during following decade of 2001-2011. The proportions of literate males and females are much higher in urban areas as compared to rural areas and their proportions have increased steadily in every census. A spectacular increase is evident in case of literacy rate of urban female during the last twenty years resulting in narrowing down the gender gap in literacy rates in rural and urban areas. Similar trend is also visible in data presented by NSSO including the recent one of 2017-18 in which urban literacy rate has further increased to around 88 per cent which was 8 per cent in 2007. During the same period, female literacy rate has shown an increase from 78 percent to 83 percent.

Other sources of data such as the NFHS III (2005-06) and NFHS IV (2015-16) also have shown a similar increasing trend in literacy of 15-49 age groups. When male literacy rate has increased from 88 percent to 91 percent, the female literacy rate has also become 91.4 per cent from 75 percent during these periods between two NFHSs (IIPS & Marco International, 2007; IIPS & ICF, 2017). However, it is noticeable that, males are in more advantageous situation than females even there has been substantial improvement in their literacy rate. While the gap in literacy rate between rural and urban males was only around 8 per cent, it is around 20 percentage points for females.

It is expected that, growth of literate population might have helped to fuel the demand for education for all children particularly girls living in rural as well as in urban areas. This in turn has resulted in increase in enrolment and retention of children not only at primary levels but also secondary and higher secondary levels.

**Elementary Schooling in Urban Area**

Along with improvements in literacy, as mentioned above, India has witnessed significant increase in primary as well as upper primary enrolments. The recent data suggest that, there has been considerable increase in participation of children in school because of increase in enrolment and decline in dropout rates over the years. This improvement could not take place without an enabling policy guidelines and schemes that have been introduced from time to time. It is worthwhile to mention the key suggestions of policy documents and schemes with respect to expansion of education in urban areas with a special focus on urban deprived groups.

**Policy Interventions:**

Historically speaking, all earlier policy documents including NPE 1986 have emphasised on gender and social equity in education right from the beginning of school education and several strategies were undertaken to bring these children within the education system. These strategies included formal as well as non-formal and special programmes like Janshala, Janbodh, National Child Labour Project, etc. Subsequently, different centrally sponsored schemes including Sarva Shiksha Abhiyan, Rastriya Madhyamik Shiksha Abhiyan, Samagra Shiksha, all have focused on urban deprived groups and special provisions are being made for their education. As it is, understandable that the right of these children has also been upheld by the RTE Act 2009 which facilitated inclusion of these children in formal education system. The National Education Policy (NEP) 2020, has included urban deprived groups within 'Socio-Economically Disadvantaged Groups (SEDGs)'mentioning that the chances for these children remaining deprived of education is high because of their socio-economic conditions and these children include migrant communities, low-income households, children in vulnerable situations, victims of or children of victims of trafficking, orphans including child beggars in urban areas, and the urban poor.

**Present Status of Access and Expansion of Schooling Facilities**

Although the situation has improved more in urban area but still eight per cent (Table 2) people remain never enrolled at the time of 75$^{th}$ NSSO survey (GoI, 2019). The proportion of such persons is more than double i.e. around 16 per cent in rural area. It is also to be noted that despite improvement, 46.5per cent urban

respondents against 40 per cent in rural area reported that they were not attending their educational institutions though they were enrolled in the past academic year.

**Table 2: Percentage distribution of persons of age 3 to 35 years by enrolment status all-India**

| | Rural | | | Urban | | |
|---|---|---|---|---|---|---|
| | **Male** | **Female** | **Person** | **Male** | **Female** | **Person** |
| **Never Enrolled** | 12.6 | 19.3 | 15.7 | 7.1 | 9.6 | 8.3 |
| **Enrolled in the past academic year and currently not attending** | 40.9 | 39.7 | 40.3 | 45.8 | 47.4 | 46.5 |
| **Enrolled in the current academic year and currently not attending** | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 |
| **Currently attending** | 46.1 | 40.7 | 43.5 | 46.7 | 42.6 | 44.8 |
| **All** | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

*Source: Key Indicators of Household Social Consumption on Education in India. NSS 75th Round: July, 2017- June, 2018,GoI, 2019*

The situation was almost same at the time of 71st NSSO (GoI, 2015) according to which, "In rural areas the percentages of never enrolled in age group 5-29 years were approximately double than that of their urban counterparts" (p. 28)." Both surveys have provided different reasons that influenced enrolment in schools. Although the age group of sample population is different in these 71st and 75th surveys yet while comparing the proportion of persons who remained never enrolled due to different reasons, one may see that there has been significant decline in proportion of students who remained never enrolled because of lack of interest in education, financial constraints, engagement in domestic chores, economic activities etc. both in rural as well as urban areas. But a considerable proportion of persons remained never enrolled because of distance of schools in urban areas according to 75th survey (see Table 3). Another important reason which determined enrolment in school has been absence of tradition of education in the community.

**Table 3: Percentage of never-enrolment by reasons for non-enrolment**

| | For persons aged 5-29 years (71st NSSO) | | For persons of age 3 to 35 years (75th NSSO) | |
|---|---|---|---|---|
| | **Male** | **Female** | **Male** | **Female** |
| **Not interested in education** | 29.50 | 27.10 | 14.5 | 15.7 |
| **Financial constraints** | 32.80 | 30.00 | 19.4 | 16.5 |
| **Engaged in domestic activities** | 3.80 | 13.40 | 0.8 | 7.9 |
| **Engaged in economic activities** | 6.90 | 1.10 | 3.2 | 1.2 |
| **School is far off** | 0.40 | 1.70 | 14.5 | 15.7 |
| **Marriage*** | - | 0.40 | - | 0.5 |
| **No tradition in the community** | 2.20 | 6.30 | 1.7 | 6.4 |
| **Other reasons** | 24.30 | 20.00 | 59.1 | 50.4 |

*This reason was meant for females only

*Source: NSSO 71st Round June 2014 and NSSO 75th Round 2017-18*

Even according to 71st NSSO, higher proportion of households in rural as well as urban areas had better access to primary schools, while it was just opposite in case of upper primary schools. While 92.5 per cent households in urban areas and 94 per cent households in rural areas have primary schools within one km of distance, but in case of upper primary schools, 83 per cent of urban households had schooling facilities for upper primary education within 1 km of distance, only 66 per cent of rural households have access for upper primary education within 1 km of distance.

The increase in number of elementary schools continued during subsequent period as well. One can observe in Table 4 that, out of the total 14.3 lakh schools only around 15.96 per cent are located in urban areas and there has been no significant increase in this percentage during the last three years. It is also to be noted that there are 1.25 million schools in rural areas and although around 86.9 per cent of these schools have primary section, only 42.1per cent has upper primary sections in it. The situation with respect to availability of upper primary sections is much better in urban areas where out of 0.22 million schools, 63.9 per cent are functioning with upper primary sections. This makes much easier for children to transit from primary to upper primary schools in urban area and they have higher chances of retention for longer period of time and better attendance rate as compared to their counterparts in rural areas. So, it is understandable that, although

proportion of schools in urban areas is much less as compared to rural areas, yet urban areas have higher proportion of composite schools than rural areas where higher proportion of primary and upper primary schools are stand-alone schools.

**Table 4: Distribution of Primary and Upper Primary Schools in Rural and Urban Area**

| | | Schools Have Primary Section | % Share | Schools have UP Section | % Share | All Schools have Primary & UP Sec. | % share |
|---|---|---|---|---|---|---|---|
| 2019-20 | Rural | 1050203 | 86.88 | 509037 | 42.11 | **1208820** | 84.04 |
| | Urban | 202236 | 88.10 | 150481 | 65.56 | **229540** | 15.96 |
| | Total | **1252439** | 87.07 | **659518** | 45.85 | **1438360** | **1438360** |
| 2018-19 | Rural | 1055584 | 84.30 | 506550 | 40.45 | **1252137** | 84.74 |
| | Urban | 196471 | 87.14 | 144064 | 63.90 | **225459** | 15.26 |
| | Total | **1252055** | 84.74 | **650614** | 44.03 | **1477596** | **1477596** |
| | Urban | 197387 | 86.81 | 142965 | 62.87 | **227383** | 15.29 |
| | Total | **1258859** | 84.66 | **645382** | 43.40 | **1487000** | **1487000** |

*Source: UDISE+, Department of School Education & Literacy, MoE, 2019-20*

There has been a considerable expansion of schooling space through composite or integrated schools. While, the proportion of composite schools which provide primary to higher secondary education is around 10.01per cent in urban areas, the proportion of such schools is only 3.03per cent in rural areas. It is also to be noted that, the proportion of composite elementary schools is also much higher in urban areas (11.83 per cent) than rural areas (3.72 per cent). One of the reasons for such disparity in schooling facilities may be the prevalence of higher proportion of private schools in urban area which mostly provide education starting from early grade till higher secondary grades.

Expansion of educational facilities has considerably impacted on completion of elementary as well as whole school education. According to 75$^{th}$ NSSO data, there are still 31 per cent people in rural and 14 per cent people in urban areas are illiterate (Table 5). The proportion population, completing secondary and higher secondary levels becomes much higher in urban areas than rural areas, indicating availability of better educational facilities in urban areas that facilitate more people to complete their schooling and continue higher education. It also reduces the chance of having high proportion of school dropouts and first-generation learners in schools.

**Table 5: Percentage distribution of persons of age 15 years and above by highest level of education successfully completed**

| Highest level of education completed | Rural | | | Urban | | |
|---|---|---|---|---|---|---|
| | Male | Female | Person | Male | Female | Person |
| Not Literate | 22.2 | 41.2 | 31.5 | 8.8 | 19.3 | 13.9 |
| Literate up-to Primary | 21.2 | 20.4 | 20.9 | 13.5 | 15.9 | 14.7 |
| Middle | 19.8 | 14.4 | 17.2 | 14.6 | 13.4 | 14.0 |
| Secondary | 17.3 | 12.5 | 15.0 | 20.4 | 17.9 | 19.2 |
| Higher Secondary | 12.0 | 7.6 | 9.9 | 18.1 | 15.1 | 16.6 |
| Graduate and above | 7.4 | 3.9 | 5.7 | 24.6 | 18.6 | 21.7 |

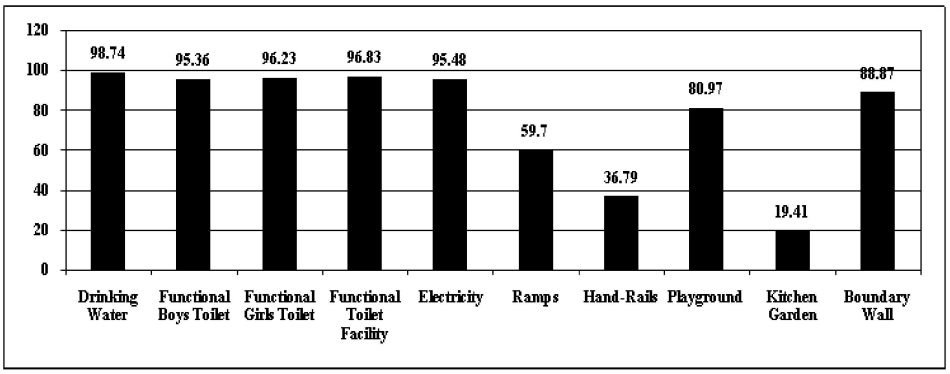
*Source: Key Indicators of Household Social Consumption on Education in India. NSS 75th Round: July, 2017- June, 2018, GoI, 2019*

Above analysis reveals that urban areas have shown considerable improvement in enrollment that attributed to expansion of primary and upper primary schooling facilities contributions to its residents. It may be worthwhile to examine to what extent these schools have been provided with adequate physical facilities.

### Availability of Physical and Academic Facilities

It is interesting to see in Figure 1, that, there are still some schools, functioning in urban areas without adequate facilities which might have affected the teaching learning process. Many schools are found without boundary wall playground and electricity connections. Some schools are still functioning with single teacher and without library and computer facility. Following section discusses this situation.

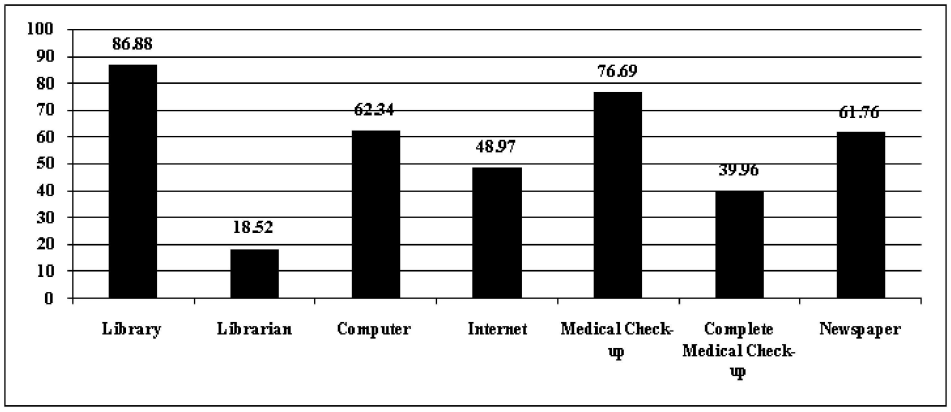
**Figure 1: Availability of Essential Physical Facilities in Urban Area 2019-20**




*Source: UDISE+, Department of School Education & Literacy, MoE, 2019-20*

While almost all schools in urban area are approachable by all-weather roads and have essential facilities like drinking water and toilets, yet 19 per cent schools have not been provided with playground, 11 per cent schools are devoid of boundary wall, five per cent do not have electricity connection and around 40 per cent schools are functioning with or without ramps. The situation is more alarming in case of availability of computers and internet facility and conducting of medical check-up (Figure 2).

**Figure 2: Percentage of Schools with Essential Academic Facilities in Urban Areas 2019-20**




*Source: UDISE+, Department of School Education & Literacy, MoE, 2019-20*

Out of total schools (2,20184) located in urban areas, as many as 67,440 or around 30 per cent schools have been established since 2002 (see Table 6). Out of these new schools, while around 92 per cent schools are in good condition, around 5 per cent need minor and only three per cent need major repair as highlighted in the DISE report of 2016-17 (NIEPA, 2018). The Table 6 also indicates that though around 2.8 per cent schools were functioning with single classroom yet the proportion of such schools is around 12 per cent in case of those schools which have upper primary and secondary sections. However, a large number of schools did not receive school grants, TLM grants, were not visited by Cluster Resource Centre Coordinators and School Inspectors. In some schools, teachers were engaged in non-teaching activities.

**Table 6: Percentage of Schools with Different Provisions and Its Utilisation in Urban Areas, 2016-17**

| Items | Primary only | Primary with UP | Primary with UP, Sec. & Hr. Sec | Upper Primary only | UP with Sec & Hr. Sec | Primary with UP & Sec | UP & Sec. | All Schools |
|---|---|---|---|---|---|---|---|---|
| Percentage of schools established Since 2002 | 29.20 | 37.75 | 20.99 | 28.8 | 10.60 | 33.35 | 28.67 | 30.63 |
| Schools with Class rooms in good condition | 87.72 | 93.25 | 97.82 | 83.77 | 84.45 | 97.32 | 89.48 | 92.37 |
| Schools having single classroom | 4.49 | 0.50 | 0.55 | 1.15 | 3.57 | 0.64 | 12.94 | 2.83 |
| Schools visited by CRC | 46.59 | 36.69 | 21.40 | 45.59 | 43.70 | 22.64 | 37.82 | 38.49 |
| Schools received School Grant | 46.29 | 26.39 | 9.24 | 44.35 | 49.87 | 9.04 | 29.92 | 32.71 |
| School Received TLM Grant | 3.01 | 2.37 | 0.82 | 2.49 | 3.95 | 0.53 | 1.26 | 2.30 |
| Schools utilised TLM Grants | 93.94 | 91.03 | 88.49 | 99.51 | 93.21 | 85.28 | 93.17 | 92.22 |
| Inspected during Previous Academic year | 37.82 | 29.68 | 19.49 | 38.85 | 36.28 | 19.33 | 31.74 | 31.68 |
| Residential Schools | 2.99 | 5.34 | 6.18 | 6.74 | 6.47 | 5.33 | 5.36 | 4.65 |
| Shift school | 6.15 | 14.73 | 17.56 | 10.86 | 8.10 | 11.58 | 10.43 | 10.73 |
| Average No. of Working days teachers spent on non-teaching tasks | 16 | 20 | 22 | 15 | 16 | 19 | 11 | 19 |

*Source: DISE, Analytical Report, Elementary Education in India, Urban Area. NIEPA, 2018*

It is to be noted (Table 7) that average enrolment is lower in 'stand-alone' primary and upper primary schools than other integrated schools. There are still around two per cent schools with a single teacher and around one fifth of these schools have 50 and more enrolment. In addition to this, one can see in that there are many small schools in urban areas with fewer enrolment even less than 30. Although

the proportion of such school is higher (29 per cent) in rural areas but around one fifth of primary schools in urban areas also have less than 30 children enrolled in it. On contrary, 17 per cent primary schools in urban areas have more than 200 students as against 5 per cent such schools functioning in rural areas.

**Table 7: Status of School Indicators**

| | Primary Only | P With UP | P With UP and Sec. and Hr. Sec. | Upper Primary Only | UP with Sec. And Hr. Sec. | P with UP and Sec. | UP with Sec. | All Schools |
|---|---|---|---|---|---|---|---|---|
| Average enrolment | 128 | 229 | 554 | 128 | 328 | 331 | 147 | 208 |
| Percentage of enrolment in Single teachers Schools | 4.85 | 1.23 | 0.32 | 7.12 | 0.22 | 1.07 | 1.43 | 1.91 |
| Schools with 50 and more enrolment | 34.41 | 13.30 | 4.16 | 26.69 | 11.28 | 6.12 | 26.38 | 21.11 |

*Source: DISE, Analytical Report, Elementary Education in India, Urban Area NIEPA, 2018*

Another important aspect of these schools is availability of classrooms for accommodating students. It is alarming to see that around three per cent schools in urban areas are functioning with single class room. Though around 4.5 per cent primary schools fall under this category but around 13 per cent schools providing upper primary and secondary education are also operating with single room. There are 32 per cent primary schools where SCR is more than 30 and similarly it is more than 35 in 30 per cent upper primary schools indicating these schools are overcrowded. The data reveals that, 63.8 per cent children are enrolled in primary schools with SCR more than 30 and 56.81per cent students are enrolled in upper primary schools where SCR is above 35.

The above analysis indicates the extent of unevenness in schooling facilities in terms of physical facilities like building, classrooms, boundary wall, playground etc.; basic facilities like drinking water, toilets etc. It has also revealed that the

distribution of some academic facilities like computer, internet etc is much skewed across the country.

### Availability of School Heads and Teachers

Provisioning head teachers, qualified and trained teachers is one of the important factors of school effectiveness. However, majority of the composite schools, functioning with higher grades above primary, have a school head to manage the schools on daily basis. It is to be noted that there is a considerable gap in availability of head teachers or principals in schools located in urban areas as there are only 53 per cent primary schools with 150 enrolments and 60 per cent upper primary schools with 100 enrolments have Head Masters/ Principal indicating absence of leadership in these schools with high enrolment.

It is noticeable from Table 8 that, teachers working in primary schools account for the highest proportion to total teachers in rural areas but in urban areas, it is the composite schools where majority of teachers are employed. The highest proportions of teachers in urban area are posted in the composite schools which have primary to higher secondary sections in same school campus. The proportion of such schools is much higher in urban than rural areas where majority of teachers are recruited in stand-alone primary schools.

**Table 8: Distribution of Teachers in Different Categories of Schools, 2018-19**

| Location | Primary Only | Primary with Upper Primary | P with UP Sec And H Sec | P with UP and Sec Only | Upper Primary Only | UP and Sec | UP, Sec and Higher Sec | All Schools Having P and Upper Pr Sec |
|---|---|---|---|---|---|---|---|---|
| **Rural** | 35.69 | 25.57 | 10.41 | 8.40 | 7.33 | 5.36 | 7.24 | 6363912 |
| **Urban** | 16.59 | 24.77 | 27.35 | 16.19 | 1.99 | 4.25 | 8.85 | 2408978 |
| **Total** | 30.38 | 25.33 | 15.16 | 10.57 | 5.85 | 5.05 | 7.66 | 8816550 |

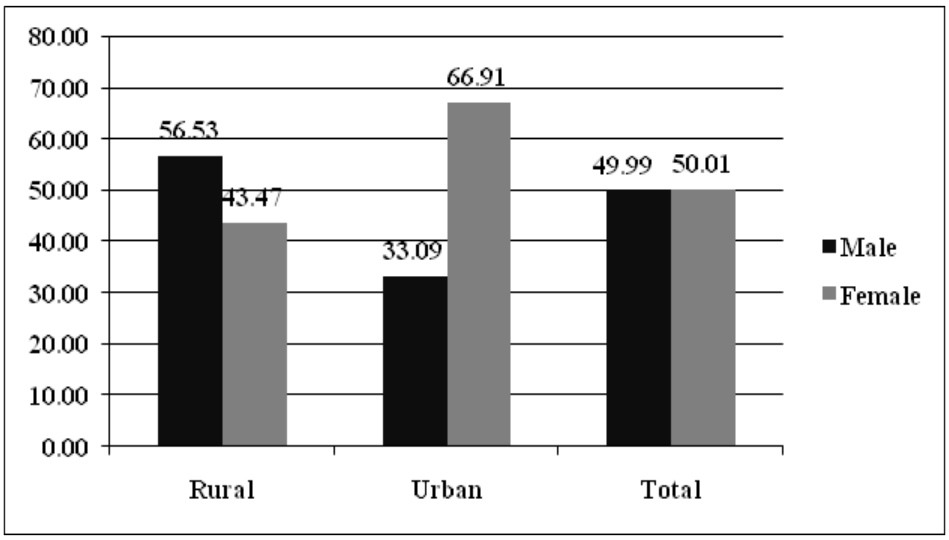
*Source: UDISE+, Department of School Education & Literacy, MoE 2018-19*

### Teachers by Nature of Appointment in Urban Area

Around 16.59 per cent of teachers work in 'only primary' schools in urban areas which include around 10 per cent single teacher schools. The proportion of regular teachers is also lowest in these schools. It has already been discussed that the

overall teacher pupil ratio (22) is not that adverse in urban areas. While 87 per cent teachers are working as regular teacher, around 12 percent are contract and 1 percent is part time teachers. It is to be noted that contractual teachers and part time teachers account for highest proportion in the integrated schools as per recent UDISE data.

Figure 3: Gender Wise Distribution of Teachers in Rural and Urban Areas

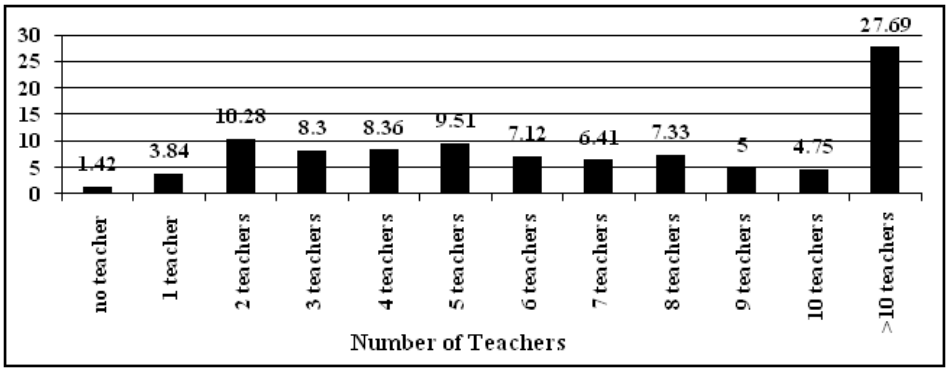



*Source: UDISE+, MoE, 2018-19*

The recent data reveals (Figure 3) that the proportion of female teachers is much higher in urban areas than rural areas which depends on availability of qualified female teachers. It is also to be noted that while the proportion of female teachers (see Figure 3) is less than male teachers in all stand alone and composite types of schools in rural areas, in urban areas, the proportion of female teachers is much higher than their male counterparts. In urban areas, although the overall proportion of female teachers is around 66 per cent, in the primary schools their proportion is more than 70 per cent. However, their proportion declines considerably in schools which are providing higher level of education. It is noticeable that their proportion is only 54 per cent in schools providing upper primary education and 56 per cent in those which include upper primary along with secondary levels and 54 per cent in schools providing upper primary, secondary and higher secondary education.

The Figure 4 reveals that, it is only 27 per cent schools in urban area which have more than 10 teachers to teach. However, majority of such schools are integrated schools providing primary to higher secondary education. On contrary, altogether only seven per cent 'only primary' schools have more than 10 teachers in it. It is also to be noted while seven per cent primary schools have single teachers and two per cent have two teachers. The proportion of such schools is negligible small in case of composite schools. It is disheartening to see around seven per cent upper primary schools are single teacher schools with 11 per cent and 16 per cent more are functioning with two and three teachers, respectively. It is worth mentioning that upper primary school needs subject specific teachers for which data are not available.

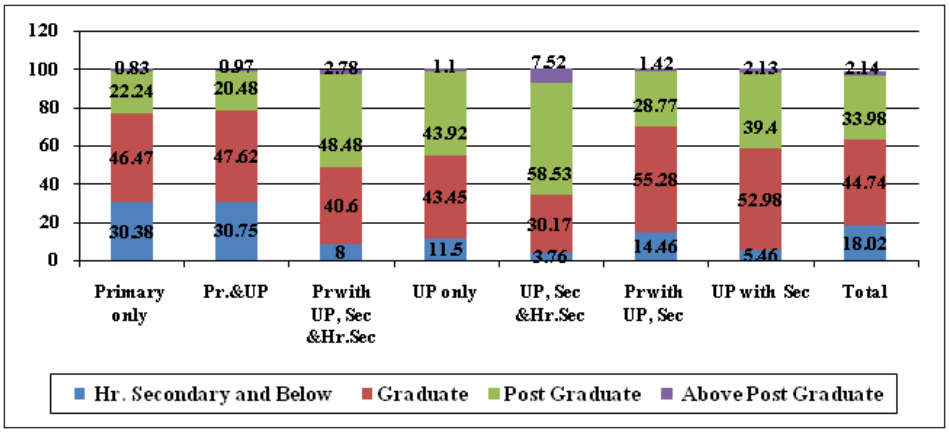
**Figure 4: Percentage Distribution of Schools by Number of Teachers**




*Source: DISE, Analytical Report, Elementary Education in India, Urban Area NIEPA, 2018*

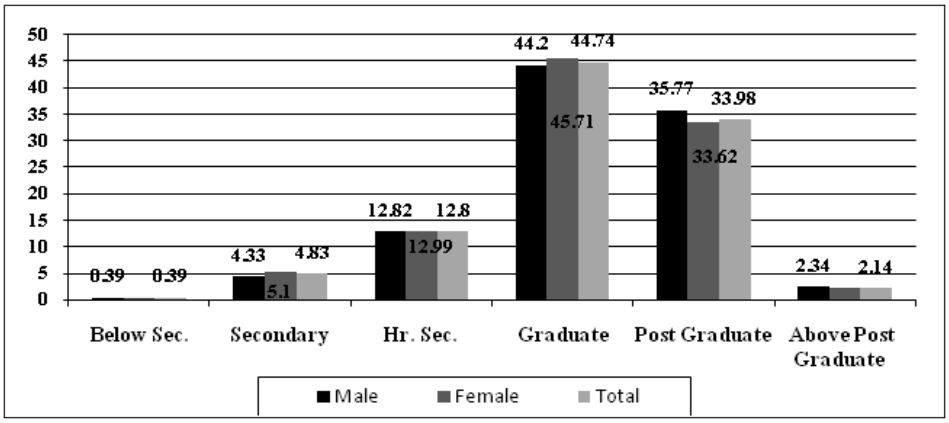
There has been considerable variation with respect to distribution of qualified and trained teachers among different types of schools (see Figure 5). While primary and elementary schools have around 30 per cent of low qualified teachers who have qualification of higher secondary and below, the proportion of such teachers in composite schools teaching students of higher grades is considerably low. These schools have been provided with higher proportion of graduate and postgraduate teachers. Similar observation can be made regarding the distribution of trained teachers. Figure 6 shows that quite a substantial proportion of female teachers pose higher qualification as 45 percent female teachers are graduates and 34 percent are post graduates. The proportion of male teachers is little higher in case of post graduate teachers.

**Figure 5: Distribution of Teachers in Different Types of Schools by their Academic Qualification**




*Source: DISE, Analytical Report, Elementary Education in India, Urban Area. NIEPA, 2016-17*

**Figure 6: Distribution of Male and Female Teachers by their Academic Qualification**




*Source: DISE, Analytical Report, Elementary Education in India, Urban Area. NIEPA, 2016-17*

One of the important issues has been the rapid privatization of school education particularly in urban areas. Table 9 indicates that there has been a declining trend in share of government schools, its enrolment and proportion of teachers in urban areas. Although similar trend is also visible in case of overall situation but the situation is more in favour of privatisation in urban areas.

**Table 9: Management Wise Distribution of Schools, Enrolment and Teachers in Urban and Total Areas in 2018-19**

| | | Number of Schools with Elementary Sections | Perce-ntage | Number of Enrolments in Elementary Schools | Perce-ntage | Number of Teachers in Schools with Elementary Sections | Perce-ntage |
|---|---|---|---|---|---|---|---|
| Urban | All Govt. | 77832 | 34.52 | 12427184 | 25.25 | 635767 | 26.39 |
| | Govt. Aided | 21813 | 9.68 | 6235480 | 12.67 | 277141 | 11.50 |
| | All Pvt. | 111671 | 49.53 | 28700182 | 58.31 | 1400145 | 58.12 |
| | Others | 14130 | 6.27 | 1857588 | 3.77 | 95925 | 3.98 |
| | **Total (N=100)** | **225446** | **225446** | **49220434** | **49220434** | **2408978** | **2408978** |
| All Areas | All Govt. | 1053733 | 71.32 | 102671176 | 55.65 | 4690223 | 53.20 |
| | Govt. Aided | 69816 | 4.73 | 13657431 | 7.40 | 676819 | 7.68 |
| | All Pvt. | 299115 | 20.24 | 61152890 | 33.15 | 3102095 | 35.18 |
| | Others | 54818 | 3.71 | 7015699 | 3.80 | 347413 | 3.94 |
| | **Total (N=100)** | **1477482** | **1477482** | **184497196** | **184497196** | **8816550** | **8816550** |

*Source: UDISE+, Department of School Education & Literacy, MoE, 2018-19*

### Gender and Social Equity in Enrolment

It has already been mentioned that, urban areas have witnessed considerable improvement in educational access accompanied by increase in number of schools and enrolment. However, despite this improvement, many children from poor and socially disadvantaged groups especially girls still remain deprived of education as shown in the Table 10 and 11. The proportion of girls is much lower in case of composite schools covering from first grade to secondary and higher secondary grades (see Table 10) as compared to other 'stand-alone' schools, though over the years, girls' proportion has shown slight increasing trend in these schools. The situation regarding girls' education is quite alarming as revealed by Table 11 and

their proportion is only 46 percent among general category population indicating substantial gender gap.

**Table 10: Percentage of Girls' Enrolment to Total Enrolment by School Category**

| Urban | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
|---|---|---|---|---|---|
| **PS (I-V)** | 48.69 | 48.86 | 48.64 | 48.65 | 48.64 |
| **UPS (I-VIII)** | 46.83 | 46.80 | 46.63 | 46.57 | 46.58 |
| **HSS (I-XII)** | 45.30 | 45.61 | 45.64 | 45.71 | 45.78 |
| UPS (VI-VIII) | 52.78 | 52.57 | 52.46 | 52.35 | 52.59 |
| HSS (VI-XII) | 47.91 | 48.36 | 49.06 | 48.94 | 48.87 |
| SS (I-X) | 43.75 | 44.83 | 44.78 | 45.30 | 45.55 |
| SS (VI-X) | 49.67 | 50.52 | 50.12 | 50.31 | 50.32 |
| SS (IX-X) | 49.14 | 51.25 | 51.25 | 51.60 | 51.26 |
| HSS (IX-XII) | 47.62 | 48.06 | 48.14 | 48.54 | 49.52 |
| HSS (XI-XII) | 47.75 | 48.60 | 47.78 | 48.91 | 49.94 |
| Total | 47.16 | 47.24 | 47.14 | 47.21 | 47.30 |

*Source: UDISE+, Department of School Education & Literacy, MoE*

**Table 11: Percentage of Total Enrolment Social Category**

| | | General | OBC | SC | ST |
|---|---|---|---|---|---|
| **Primary** | **Total** | 40.87 | 40.14 | 14.74 | 4.25 |
| | **Girls** | 46.40 | 46.93 | 47.65 | 46.78 |
| **Upper Primary** | **Total** | 40.53 | 39.81 | 14.98 | 4.68 |
| | **Girls** | 46.37 | 47.57 | 48.59 | 47.73 |
| **Elementary** | **Total** | 40.74 | 40.02 | 14.83 | 4.41 |
| | **Girls** | 46.39 | 47.17 | 48.00 | 47.16 |

*Source: UDISE+, Department of School Education & Literacy, MoE 2018-19*

As Table 12 indicates the proportion of enrolment of SC and ST students is much higher in government schools than private schools at the upper primary level but it is just reverse in case of primary schools. Non-availability of upper primary private schools in nearby area can be another reason for abrupt decline in proportion of these children in private schools as it requires their parents to spend money on school transportation.

**Table 12: Percentage of SC and SC Enrolment in Schools by Management**

| | SC Enrolment | | | | ST Enrolment | | | |
|---|---|---|---|---|---|---|---|---|
| **Urban** | **Primary Classes** | | **Upper Primary Classes** | | **Primary Classes** | | **Upper Primary Classes** | |
| | **Govt.** | **Pvt.** | **Govt.** | **Pvt.** | **Govt.** | **Pvt.** | **Govt.** | **Pvt.** |
| **2016-17** | 37.10 | 48.50 | 42.32 | 35.18 | 36.11 | 49.89 | 42.66 | 38.73 |
| **2017-18** | 35.17 | 50.30 | 41.44 | 36.45 | 34.61 | 50.68 | 42.57 | 38.41 |
| **2018-19** | 35.81 | 49.98 | 41.38 | 36.43 | 33.09 | 49.98 | 41.08 | 39.63 |

*Source: UDISE+, Department of School Education & Literacy, MoE*

**Trend and Reasons of Dropout**

It is widely acknowledged that dropout of learners has been an important reason for not achieving the universalisation of elementary education in rural as well as urban areas. The U-DISE provides average annual dropout rate which indicates that currently the average annual dropout rate in urban areas for all children is only 2.21 per cent and for girls it is 2.32 per cent at the primary level but it was only 0.29 per cent one year back. It is to be noted that the average annual dropout rate has increased substantially from around 8 per cent in 2014-15 to 13 per cent in 2016-17 at the secondary level. This rate is 12.52 per cent for girls and 13.66 per cent for boys indicating boys are more at the risk of dropout in urban areas.

According to recent 75$^{th}$ NSSO, altogether 42.1 per cent respondents under the age group of 3 to 35 years who got enrolled in the past academic year were not attending school at the time of survey. The share of boys is slightly higher i.e. 42.3 per cent as compared to girls i.e. 41.8 per cent. It is to be noted that a considerable proportion of sample respondents reported that they had to discontinue their education even before entering secondary schools and proportion of such people is quite high in urban areas though it is much less as compared to rural areas. Similarly, as informed by NFHS IV 2015-16, around 95.2 percent boys in the age group of 6-10 years old were attending school while the percentage share of school going boys declined to 89 per cent in case of 11-14 years age group. The proportion of school going girls has been little lower than boys in case of both age groups, for 6-10 years age group, it is 95 per cent (only 2 per cent less than boys) and in case of 11-14 years age group it is 87.5 per cent. This indicates, many children, girls as well as boys do not continue their study after primary education. These proportions further decline in case of children of 15-17 years old indicating more dropout after completion of elementary education.

Major reasons for not attending schools both for boys and girls in rural as well as in urban areas are lack of interest in studies. Besides high expenses, work engagements in firm and family business, household chores, marriage, sibling care etc. have prevented more girls than boys from attending their schools in rural and urban areas both. Many of these children actually could not afford to avail school due to poverty which compelled them to work at home or outside rather than attending school. It is to be noted that there are several school or system related reasons which also have excluded some children from schools. These are, lack of proper schooling facilities, lack of safety, absence of female teachers, repeated failures, not getting admission etc. and out of these, apart from 'repeated failure' all other reasons affected more girls than boys. These issues need to be addressed by education system in order to promote an inclusive school education in rural as well as urban areas.

**Child Labour and their Education**

The children who are engaged in different wage labour activities are most likely belonging to the urban poor section and as mentioned above, economic reasons along with other factors deter these children from attending schools. As per the Census 2011, the total child population in India in the age group (5-14) years is 259.6 million. Of these, 10.1 million (3.9 percent of total child population) are working, either as 'main worker' or as 'marginal worker'. However, the incidence of child labour has decreased in India by 2.6 million between 2001 and 2011 which might have been possible because of reduction in poverty and increase in awareness of people. It is understandable that, most of these working children whether they are living in rural or urban areas remain deprived of education. In 2001, around 1.79 percent (1020600) working children were found not attending any education while 0.53 percent (300824) working children were enrolled in an educational institution. In addition, there are some children specially girls who are not being able to attend any education due to various other reasons including sibling care. Lack of child care facilities in urban area affects poor children's education drastically because in most cases their both parents work and cannot afford to avail the costly child care facility, available in private organizations. According to the DISE data coverage of pre-school education is very low at present. In urban area, around 39.4 per cent schools currently are providing pre-school education. Moreover, the proportion of pre-primary education is comparatively lower in government schools than in private schools, making it more difficult for elder sibling from poor families

to attend schools and are more likely to avail government provided institutions. Less enrolment in pre-school section also affects primary education to some extent.

**Table 13: Distribution of working children by type of work in 2011**

| Area of work | Total Numbers (in millions) | Percentage | Rural (per cent) | Urban (per cent) |
|---|---|---|---|---|
| **Cultivators** | 2.63 | 26.0 | 31.5 | 5.5 |
| **Agricultural labourers** | 3.33 | 32.9 | 39.9 | 4.9 |
| **Household industry workers** | 0.52 | 5.2 | 4.7 | 7.2 |
| **Other workers** | 3.62 | 35.8 | 23.9 | 83.4 |
| **Total (N=100)** | 10.1 | - | 8.1 | 2.0 |

*Source: Census of India 2011*

**Does Poverty Influence Schooling of Children in Urban Areas?**

Many scholars have already explained that educational access and participation is considerably linked with poverty and it is not an exception for children residing in urban areas specially those who are living in urban slums. It has already been mentioned above that, many children remained never enrolled and had to drop-out because of financial constraints as they could not afford to get education or they had to get engaged in wage labour or family occupation instead of attending school. According to NFHS IV (GoI, 2017), "Educational attainment increases with household wealth. However, females in poorer households face more deprivation and exclusion from educational opportunities as compared to their male counterparts. Females in the lowest wealth quintile have completed a median of 0 years of schooling, compared with a median of 9.1 years for females in the highest wealth quintile. The median number of years of schooling was 2.9 years among males in the lowest wealth quintile and 9.9 years among those in the highest quintile." NFHS has not provided data for rural and urban area separately but 71$^{st}$ NSSO has provided such data.

**Table 14: Gross and NET Attendance Ratio (per cent) for different levels of education for each quintile class of UMPCE**

| | GAR | | | | NAR | | | |
|---|---|---|---|---|---|---|---|---|
| | Male | | Female | | Male | | Female | |
| quintile class of UMPCE | Primary | Upper Primary | Primary | Upper Primary | Primary | Upper Primary | Primary | Upper Primary |
| 1 | 100 | 88 | 101 | 77 | 78 | 56 | 77 | 52 |
| 2 | 102 | 89 | 101 | 89 | 85 | 64 | 85 | 63 |
| 3 | 105 | 100 | 105 | 94 | 88 | 68 | 87 | 70 |
| 4 | 106 | 93 | 102 | 100 | 90 | 73 | 88 | 74 |
| 5 | 101 | 96 | 102 | 91 | 89 | 76 | 89 | 70 |
| All | 102 | 93 | 102 | 88 | 85 | 67 | 84 | 64 |

*Source: NSS Report No. 575: Education in India, Round 71, 2014, MSPI, pp. A-108*

There has been considerable gap in current attendance and enrolment status of persons across the quintile class of UMPCE (Monthly Per Capita Expenditure) in urban areas which has been highlighted in Table 14. It is visible that, the proportion of currently not attending population in the age group of 5-29 year is also higher in case of bottom quintile class than the highest one both in rural and urban areas. The situation of class and gender wise attendance becomes more prominent in terms of GAR and NAR for each quintile class of UMPCE. It is clearly visible that there has been considerable gender gap in GAR and NAR in urban areas. While the GAR at the primary stage for urban males is above 100, at the upper primary level, it is 93. Similar declining trend is noticed in case of GAR of females from higher to bottom quintile class of UMPCE particularly in case of upper primary level. Although, NAR is much lower than the GAR, the trend is almost similar in case of NAR, indicating considerable gender disparity at the primary and upper primary levels even in urban areas.

### Impact on Education during Pandemic

The novel corona-virus disease (COVID-19) pandemic has left the urban poor in India poorer, hungrier and mal nutritioned. The shutting down of schools during pandemic severely impacted the schooling of children particularly from vulnerable groups like urban slums, it resulted in a huge gap in their learning. Many children started working and child marriage also was rampant during this period. These children lost the most in terms of educational needs particularly because of no

access to digital devices which further forced them to discontinue their studies (Cerna, Rutigliano & Mezzanotte 2020). According to ASER (2021) only 8% of children in rural areas and 25% of children in urban areas studied online regularly. Even those who were online found it difficult to follow the curriculum and had connectivity issues. It was also revealed by the survey that 65.4% teachers flagged the problem of children being "unable to catch up" as one of their biggest challenges.

**Conclusion**

The above analysis reveals that the educational facilities in urban areas are quite unevenly distributed. Government schools in urban area cater to more students from poorer background but these schools are not always well equipped. This may affect poor and marginal groups to educate their children. Proper planning for each city as well as small towns is the need of the hour. All measures to remove the rural urban dichotomy have to be taken up with more seriousness. At the same time, child tracking system, which have been taken up by some states can also be introduced particularly for urban children since many children reportedly remain never enrolled and some drop out before the completion of elementary education and these children are mostly those who are living in difficult circumstances in urban area. There is a strong association between poverty and schooling in urban area as majority of dropout and never-enrolled children belong to low-income group and are already engaged in labour-force which is one of the major reasons for not attending school. The facilities like child care and preschool education are to be provided in the urban area where both parents work and remain away from home for longer hours to earn a meager amount.

Education of these poor children, who belong to urban deprived groups cannot be seen in isolated manner and coordination among different departments to improve the quality of life of children needs to be considered. Their right to education and other social services should be addressed accordingly. It is important to take appropriate actions to fulfill the dreams and aspiration of poor children and their parents living in urban area as well. For example, it is required to take up some community-based activities even in urban area. Word Committees are to be developed and activated with more attention on their capacity building. Since these children are most likely to bear the brunt of urban development and many of them are not in position to protect themselves from evil practices like rigorous child labour, trafficking, engagement in begging, sexual exploitations etc. which affect their physical and emotional wellbeing, special provisions are to be made for safe and secured hostel facilities. It is more needed to address the challenges because of covid pandemic. In addition, provisioning access to quality education in urban

area cannot be neglected any more. Although the schools are better equipped in urban areas as compared to schools located in rural area yet above analysis has indicated that the situation is far from satisfactory. Following NEP 2020 policy guidelines, more proactive and coordinated actions are to be taken by involving different stakeholders, responsible for holistic development of children.

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# Enhancing 21st-Century Skills through Art-Integrated Learning

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***Abstract***

*In today's scenario, we all know that skills are important in academia and workplace. Students will require 21st Century Skills to prosper in a fast-changing, technologically integrated global world. Learners will gain the capacity to use problem-solving skills in real-world circumstances in addition to gaining problem-solving skills. The educational system must adapt to the rapid changes in technology. That is why "21st-Century Skills" is so crucial. They aid in the discovery of how various disciplines interact or converge on a given issue. 21st-century skills help in building confidence, facing daily life challenges, problem-solving abilities, creativity, critical thinking skills, communication skills, technological skills, etc. Skills for the twenty-first century are necessary for holistic development so that people can contribute to the growth and progress of their community and nation. This paper focuses on how a teacher can enhance 21st-Century skills with help of different art forms. This can be done with the help of Art-Integrated Learning because when students perform an activity in a group they learn different things like how to collaborate, full participation in the activity, joyful learning, and enhances creativity & interest among learners.*

***Keywords :*** *Art-Integrated Learning (AIL), 21st-century skills (Learning skills, life skills, and literary skills*

## Introduction

In today's scenario, we all know that the twenty-first century gives new possibilities and new demanding situations, for these skills are important in academia and workplace. Students will require 21st-Century Skills to prosper in a fast-changing, technologically integrated global world. Children and adolescent's must-have 21st-

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century skills to be will empowered in order to deal with challenges and daily concerns. These skills can bring positive psychological and behavioural changes in the students.

The goal is to prepare today's learner to be responsible citizen and responsible human being who understand their potential and abilities. Learners will gain the capacity to use problem-solving skills in real-world circumstances in addition to gaining problem-solving skills. It helps in shaping our society & nation as well. Hence, a new set of abilities is required to be a successful person in present & future. Also, according to NEP 2020, the goal of education is to prepare learners for a better future. To achieve this goal, NEP 2020 talks about vocational education which starts from the 6$^{th}$ standard. For this, a teacher has to engage students in real-world environmental issues early in their educational studies this may help to solve the present situation in education to change the attitude of students towards learning. A teacher can apply several teaching strategies to achieve the true goal of education. To cope with this fast-changing world one need to learn twenty-first-century skills, these are broadly divided into three categories: learning skills, life skills, and literacy skills. The options for communicating with everyone in the world is quickly evolving, thanks to Zoom, WhatsApp, Slack, and other apps. And the set of skills our students will need to explore these new tools, develop social skills, and succeed in work and life is always changing. 21$^{st}$-century skills help in building confidence, facing daily life challenges, problem-solving abilities, creativity, critical thinking skills, communication skills, technological skills, etc. Skills for the twenty-first century are necessary for holistic development so that people can contribute to the growth and progress of their community and nation.

The term "21$^{st}$-century skills" pertains to a broad set of knowledge, abilities, behavior, and personal traits that are essential to success in today's modern world. In general, 21$^{st}$-century skills are applied across the whole of a student's life in all academic areas, as well as in all educational, career, and civic setups. It should also be found that the concept of "21$^{st}$-century skills" encompasses a broad and amorphous body of information and abilities which is difficult to define and is not officially codified or categorized. Whereas the term is frequently used in education and it is also not every time consistently defined.

21st-century skills include learning skills 4C's (i.e. critical thinking, creativity, collaboration, and communication), life skills: FLIPS (i.e. flexibility, leadership, initiative, productivity, and social skills), literacy skills: IMT (i.e. information, Media, and technology).

Arts integration is a method of academic instruction in which an arts area is linked to a content area to increase student engagement, acquire knowledge, and ability to reflect (Anderson, 2012; Loughlin & Anderson, 2015).

Rinne et al. conducted a study on retention of vocabulary knowledge in 2011 and discovered that explicitly teaching academic vocabulary within multiple sensory arts-integrated educational tasks enhanced vocabulary retention among students from three to fifth standards. Learners can improve their learning viewpoints against academic tasks and also enhance academic self-efficacy. Graham and Brouillette (2016) observed that by using visual and dramatic art integration techniques, learners of grades 3 to 5 improved their knowledge of physical science content. Also, Kisidaet al. undertook a study in 2020 and the result of the study revealed that art integration using drama art form was successful in history lessons for third to fifth standard students, demonstration can increase academic subject knowledge, encouragement for history, interpersonal functioning, and curiosity in the arts.

**How 21st -century skills can be taught through Art-Integrated Learning**

Every learner needs a platform to learn something & that platform is provided by a teacher. This platform helps a learner to discover and share experiences within the group. In this study, arts integration is considered as a strategy for linking the advancement of skills and concepts with skills and concepts from other aspects of learning through different modalities of classroom interactions. Learners in art-integrated classroom settings work "with" &"through" different art forms to achieve educational, interpersonal, and internal objectives said Cornett in 2007. Instructors and learners can use visual art, performing art or drama, music, and dance to reflect and explain themselves in multi-sensory aspects. Both learners and instructors benefit from these strategies because with time learning becomes more standardized, central, and relevant. Over and above traditional academic approaches, visual and arts integration through drama have been illustrated to help struggling readers, retain and memorize the key concept of science and social studies.

**Ways to implement Art-Integrated learning in the classroom**

- **Motivate the learners to use vocabulary related to the arts:** Teach students art-related words and encourage them to use them in conversation and presentations on a daily basis.

- **Make art a part of other subjects:** This shows how art relates to other subjects such as science (for example monitoring changes in fiving things plant's state or colour), mathematics (geometrical shapes, measurement), social studies (history taught via paintings and digital photos, acting out historical facts, etc.)

- **Allow learners to use drawing and labelling to articulate their feelings, ideas, and emotions:** Some students have a hard time expressing themselves in written form. Drawing may assist children, particularly those learning English or those with special needs, in better explaining themselves and communicating. Art can then be used to know new words, grammatical structures, and writing. Furthermore, students' comprehension of written text is facilitated by graphics because they provide more frame of reference, allowing them to link valuable insights to a specific topic or text.

- **Develop a better understanding:** Art-Integrated learning helps to develop a deep insight into the concepts because when students share their experiences and work in a group then they learn several things.

- **Students are encouraged to participate in role-playing activities:** When provided the chance to actively make a plot, persona, or event, it is easier to understand for a few students. Learners will gain confidence through role-playing and understanding in a much more significant way, whether they act as a part of a manuscript or conduct a "readers' theatre" exercise wherein every student performs a scene from a manuscript. Through this role-play method learners can learn various 21st-century skills that can help in their workplace also as example collaboration, communication, critical thinking, creativity, initiative, social skills, leadership skills, and flexibility in teaching, learning, and evaluation also.

## Conclusion

Over the last two decades, arts integration and 21st-century skills have just been encouraged steadily and in conjunction with educational reform (Workman, 2017). In contrast to the conventional mode of teaching, Art-Integrated approach is far better to fulfil the educational needs and it also works for the betterment of learners to achieve their future goals as well. It has also a positive impact on academic content's long-term retention this was proved by research on "The Effects of Arts Integration on Long-Term Retention of Academic Content" conducted by Hardiman et al. 2014.

Art-Integrated Learning also increases the conceptual understanding among the students. Students respond well to the combined effect of art form and subject area because they become more excited and willing to engage (Basu, 2020). It is

suggested that AIL should be implemented in all elementary schools to make teaching more enjoyable and effective.With the help of different art forms like performing art, visual art, role-play, etc in the classroom can easily enhance 21st-century skills. Applying different teaching strategies in the classroom can help to fulfill the personal, social, and global needs in this rapidly changing world. Art-Integrated Learning strategy is an innovative teaching strategy which helps to learn 21st-century skills.Learners and instructors may be capable of adjusting cultural systems to satisfy a more equal and fair range of human needs if they are allowed to reflect critically on their progress and strong points.

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# Inclusive Education and National Education Policy 2020

***Ajoy Kumar Manna* and Nimai Chand Maiti*****

***Abstract***

*Education is a fundamental process to make one a complete man, preparing one for the service to the nation and the key to accelerate development of individual as well as the nation. But unfortunately some of the students are far behind the average students of the same ages. As we are in the same boat, we have to accompany all in the same journey i.e. inclusiveness of education. This paper has the objective to identify the impact of National Education Policy 2020 in Inclusive education. This is a qualitative study descriptive in nature depending on printed secondary data collected from books, journals, papers and articles etc. Content analysis (Conceptual analysis and Relational analysis) is used here. The major findings of the study are: equitable and inclusive education: learning for all is the one of the core vision of National Education Policy 2020 (NEP 2020), Early Child Care and Education (ECCE) in pre-primary school, mid-day meal (MDM) for students, student friendly curriculum, promoting technology in education, bag less education policy, art integrated and sport integrated education are the bold step of NEP 2020 to ensure inclusive education. Implications of the study are: same learning opportunities for the Child with Special Needs (CWSN) and the Rights of Person with Disabilities (RPWD) children are introduced. India is the one of the signatory of Sustainable Development Goals as well as ensuring inclusive and equitable quality education and promoting lifelong learning opportunities for all to maintain social justice and equality which is the vision of Government of India.*

***Keywords:*** *Inclusive Education, National Educational Policy 2020.*

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## 1. Background of the study

"Sakeler Tare Sakele Amra,

Pratayeke Amra Parer Tare."- Kamini Roy

Education is the more powerful instrument of social change and it depends on inclusive education i.e. education for all (EFA) irrespective of poverty, gender, caste, ethnicity and disability of children. It is the inclusion of children with disabilities in regular classroom designed for normal students to promote equal justice in educational opportunity. Surgent report 1944, Kothari Commission report 1964 recommended that disabled children must receive main stream education, The Rights of Persons with Disabilities Act 1995 recommended rehabilitation of people with disabilities. The United Nations Educational Scientific and Cultural Organization (UNESCO) World conference (1994) on special needs in education in Salamanca, Spain recommended for the inclusion of all children regardless of their physical, intellectual, Social, emotional or other conditions. Government of India has launched the Sarva Siksha Abhiyan (SSA, 2001) to implement 'Universalization of Elementary education (UEE) to all children for the age group 6-14 years. According to United Nations Children's Fund (UNICEF) report on the status of disability in India 2000 around 30 millions children suffering with disability, National Council of Educational Research and Training (NCERT) 1998 all India educational survey report shows that 20 millions children of age 6-14years require special needs and according to World Bank report 2004 25 million children are out of school. Inclusive education addresses the needs of all children in education.

The basic principles of inclusive education are:

i. All children can learn
ii. Additional support are needed for children with special needs
iii. Responsibilities of different stakeholder are needed to ensure education for all
iv. Modification of teaching –learning material and method are needed
v. Professional competency of teacher is the key factor of inclusive education

## 2. Significance of the study

The study may reflect light on the initiatives taken in NEP, 2020 to ensure inclusive education.

### 3. Objective of the study

To identify the impact of National Education Policy 2020 on Inclusive education.

### 4. Operational definition of the key terms used in the study

**Inclusive education**-Inclusive education means all children in the same classroom, in the same school irrespective of all backgrounds must learn together and be benefitted equally.

**National Education Policy 2020**- NEP drafted under the chairmanship of K. K. Kasturirangan and adopted by the Govt. Of India (Prime Minister Narendra Damodar Das Modi) on 29th July 2020 is treated as National Educational Policy 2020.

### 5. Delimitations of the study

The study is delimited by having included only Secondary data

### 6. Review of related literature

Namanyana, T. & Shaoan, M.R. (2021)[1] has conducted a study on inclusive education: "A Literature Review on definition, attitudes and pedagogical challenges in a qualitative study based on secondary data". The major findings of the study are: children's disabilities are viewed differently in different contexts and it also depends on how people and society view it. Positive attitude of teachers, students and communities and concerned pedagogical changes along with governments initiatives are the key points of inclusive education.

Lakshmi, R. (2018)[2] has conducted a study on inclusive education in India in a qualitative study to consider inclusive education in context of Indian scenario. The major findings of the study are: the success of inclusive education depends on teachers. So the skill development of teacher is required to ensure quality education. Infrastructural facilities, curriculum modification and changes of community sentiment are the key factors to ensure inclusive education.

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[1] Namanyana, T. & Shaoan, M. R. (2021) Inclusive Education: A Literature Review on Definitions, Attitudes and Pedagogical Challenges, IJRISS, Vol .V, Issue.III, pp-358-365. Retrieved from https://dx.doi.org/10.47772/IJRISS.2021.5324 on 15.03.2023

[2] Lakshmi, R. (2018) Inclusive Education in India: Challenges and Prospects, IJIRMPS, Vol.6, Issue.5, pp.38-42. Retrieved from www.ijirmps .org on 16.03.2023

Sing, S, K, (2017)[3] has conducted a study on inclusive education to consider issues and challenges faced by the special needs visually impaired students. The major findings of the study are: blind and visually impaired citizens of the country are economically marginalized. There are urgent needs of upgrading the education system for visually impaired child.

Singh, J. D. (2016)[4] in his paper focussed on the need and challenges of inclusive education, and the measures to implement inclusive education in India. The findings of the study are: inclusive schools have to address the needs of all children in every community and the central and state governments have to manage inclusive classrooms.

Sarao, T. (2016)[5] in his paper considered the obstacles and challenges in inclusive education with special reference to teacher preparation. The major findings of the study are: children with special need can be included in general school system without any demarcation and differentiation. There so many problems such as, lack of well educated teachers, curriculum, resources, good infrastructural facilities, awareness, positive attitudes, plans, policies are creating hurdles to implement the concept of inclusive education in India.

## 7. Methodology of the study

This is a qualitative study descriptive in nature based on secondary data collected from books, journals, news papers, and websites. Conceptual and Relational content analyses are used here to consider the objectives of the study.

## 8. Analysis and interpretations of data

### 8.1 Challenges faced by stakeholders

The key stakeholders of inclusive education are teachers, school administrations and parents for the success of inclusion of children with disabilities in general schools. The basic challenges confronted by the stakeholders' are-:

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[3] Sing, S, K, (2017) A Study of Inclusive Education with reference to Visually Impaired students in lucknow and measures to Strengthen Fund Management, International Journal of Science Technology and Management, Vol. 6, Issue.6, pp.142-159

[4] Singh, J. D. (2016). Inclusive Education in India – Concept, Need and Challenges. Scholarly Research Journal for Humanity Science & English Language, Vol.3, Issue.13, pp. 3222-3232.

[5] Sarao, T. (2016). Obstacles and Challenges in Inclusive Education in India with Special Reference to Teacher Preparation. International Journal of Education and applied research, Vol.6, Issue.1, pp.35-37.

i. **Teachers:** Sometimes teachers are not well equipped to teach children with disabilities and are lacking in positive attitude, skills and competencies required to deal effectively with children with special educational needs.

ii. **School & Administrations:** Most of the schools are not properly designed to meet the unique needs of students with disabilities like transport services, accesses to school building, accesses to toilets, teaching methodologies and text books.

iii. **Parents:** Parents do not have enough information about their child's particular disability and sometimes it leads to a sense of hopelessness for their children.

iv. **Community:** According to UNESCO (2010) report community attitudes is a barrier to equal education of children in India

### 8.2 Measures taken in NEP-2020

i. According to NEP 2020, education is the single greatest tool for achieving social justice and equality in which every citizen has the opportunity to dream, thrive, and contribute to the nation and no child will lose the opportunity to learn and excel because of circumstances of birth or background[6] (NEP, 2020, point 6.1).

ii. According to NEP 2020, the Indian education system is a steady progress towards bridging gender and social category particularly for socio-economically disadvantaged groups (SEDGs) like female and transgender, Scheduled Castes, Scheduled Tribes, OBCs, students from villages, small towns, students with disabilities, migrant communities, children of lower income families, children of victims of trafficking and orphan children[7] (NEP, 2020, point 6.2).

iii. According to NEP 2020, minorities are also relatively underrepresented in school and higher education. The Policy acknowledges the importance of interventions to promote education of children belonging to all minority communities, and particularly those communities that are educationally underrepresented[8] (NEP, 2020, point 6.2.4).

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[6] National Education Policy 2020, Ministry of Human Resource Development, Government of India, para. 6.1

[7] Ibid (Ref-6, para- 6.2 )

[8] Ibid (Ref-6, para- 6.2.4)

iv. NEP 2020 recognizes the importance of creating enabled mechanisms for providing Children with Special Needs (CWSN) or Divyang, the same opportunities of obtaining quality education as any other child[9] (NEP, 2020, point 6.2.5)

v. NEP 2020 has laid emphasis to ensure SEDGs by providing bicycles and organizing cycling to provide access to school particularly for the participation of female students. ECCE is the greatest dividends for children who come from families that are economically disadvantaged group. Well-trained social workers, students, parents, schools, and teachers will work together to improve attendance and learning outcomes.[10] (NEP, 2020, point 6.5)

vi. The Government of India will constitute a 'Gender-Inclusion Fund' to provide equitable quality education for all girls as well as transgender students. The fund will be provided by the Central government for assisting female and transgender children in gaining access to education and similar 'Inclusion Fund' schemes shall also be developed to address analogous access issues for other SEDGs (NEP, 2020, point 6.8).

vii. Free boarding facilities will be provided in school locations where students may have to come from far, and particularly for students who are from socio-economically disadvantaged backgrounds, with suitable arrangements for the safety of all children, especially girls. Kasturba Gandhi Balika Vidyalayas will be strengthened and expanded to increase the participation in quality schools (up to Grade 12) of girls from socio-economically disadvantaged backgrounds[11] (NEP, 2020, point 6.9)

viii. NEP 2020 ensure education for all, and according the Rights of Persons with Disabilities (RPWD) Act 2016, inclusive education as a 'system of education wherein students with and without disabilities learn together and the system of teaching and learning is suitably adapted to meet the learning needs of different types of students with disabilities'[12] (NEP,2020, point 6.10).

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[9] Ibid (Ref-6, para- 6.2.5 )

[10] Ibid (Ref-6, para- 6.5)

[11] Ibid (Ref-6, para- 6.9 )

[12] Ibid (Ref-6, para- 6.10 )

ix. NEP 2020 ensure assistive devices and appropriate technology-based tools, as well as adequate and language-appropriate teaching-learning materials (e.g., textbooks in accessible formats such as large print and Braille) will be made available to help children with disabilities integrate more easily into classrooms and engage with teachers and their peers. Adequate attention will be paid to the safety and security of children with disabilities [13] (NEP, 2020, point 6.11).

x. NEP 2020 ensured that children with benchmark disabilities will have the choice of regular or special schooling. Special educators will support the rehabilitation and educational needs of learners with severe or multiple disabilities and will assist parents/guardians in achieving high-quality home schooling and skilling for such students as needed. The children under home-based education must be treated as equal to any other child in the general system[14] (NEP, 2020, point 6.12).

xi. The awareness and knowledge of how to teach children with specific disabilities (including learning disabilities) will be an integral part of all teacher education programmes, along with gender sensitization and sensitization towards all underrepresented groups in order to reverse their underrepresentation[15] (NEP,2020, point 6.14) .

xii. All scholarships and other opportunities and schemes available to students from SEDGs will be coordinated and announced by a single agency and website to ensure that all students are aware of, and may apply in a simplified manner on such a 'single window system', as per eligibility[16] (NEP,2020, point 6.18) .

**9. Findings of the study**

i. NEP 2020 is a bold step to ensure education for all (EFA) to fulfil the global vision of Universalization of Elementary Education (UEE)

ii. NEP 2020 has laid emphasis on the role of Government, teacher training, parents and community awareness for the success of inclusive education.

iii. NEP 2020 added the additional mileage for the development of SEDGs to ensure social equality.

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[13] Ibid (Ref-6, para- 6.11)

[14] Ibid (Ref-6, para- 6.12 )

[15] Ibid (Ref-6, para- 6.14)

[16] Ibid (Ref-6, para- 6.18)

## 10. Suggestions of the study

i. Community awarenesses particularly parents awarenesses are required

ii. Positive attitude of students, teachers are the key factors for the success of inclusive education.

iii. Different teaching equipment for different disabled children are required

## 11. Conclusion of the study

The success of inclusive education depends upon many factors. Teachers with essential knowledge and skills are the essential component to ensure inclusion education. Inclusion without 'adequate' preparation of general schools will not yield satisfactory results. It is essential that issues related to infrastructural facilities, curriculum modification and educational materials should be addressed. Community involvement is the key factor for the success of education of children with special needs in both formal and non-formal educational settings.

## 12. Limitations of the study

i. Lack of time for study,

ii. No primary data has been considered for the study.

## 13. Recommendation for further studies

i. Broad research works can be done on inclusive and equitable quality education and sustainable development.

ii. Most of Sustainable Development Goals depends on development of Inclusive education.

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# Inclusiveness in India in light of NEP-2020

***Nafisa Khatun*** [*] ***and Mudassar Nazar Baidya*** [**]

***Abstract***

*Inclusiveness is a holistic approach and framework that aims to secure equality and equity for all in every sphere of life. Building an inclusive society is a pivotal issue of the twenty-first century in India in the global context. The present article highlights various aspects of inclusiveness in India in the light of the National Education Policy, 2020. The article examines various recommendations and goals of the National Education Policy, 2020, with special reference to inclusiveness in India. It explores different issues of equitability and inclusion in pre-school, elementary, and higher education. The provisions for the educationally underrepresented communities have been elaborated with reference to the NEP-2020. The issue of quality education for disabled children has also been examined. Various programmes and schemes have been critically disclosed with the help of research findings and databases. A few research areas have been suggested in this regard. The article revealed that a conducive social environment, the justification and application of government acts, and continuous research work are of the utmost importance. Moreover, increasing the awareness and knowledge of all stakeholders about the new education policy is the key to its success. The article found that the technology-friendly mindset of the teacher community is going to be crucial for years to come.*

***Key Words: Equity, Equality, Inclusiveness, NEP-2020.***

## Introduction

We are living in an era where human rights are given uttermost importance. In the global context, liberalization, internationalism, humanism, social equity, equality, etc. are given priority. Inclusion and inclusiveness have been assumed as indices of human development. It is a philosophy that speaks about proper development, involvement, and participation for all. It talks about equal respect and dignity, and about development for all. It is related to education and survival for all. In the

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global context, India has emphasized the need to establish an inclusive school and society so that national development can be enhanced. The national education policy 2020, which was published in July 2020 by the MHRD, Government of India, focused on inclusiveness, equity, and equality in the 6th and 14th chapters of its document, respectively. The policy adopted a holistic approach and framework to cater to the aims of sustainable development and education for all from a global perspective. The intention of the present article is to explore different issues of NEP 2020 with special reference to inclusiveness, equity, and equality in the Indian scenario.

**Literature Review**

Chowdhry,M. (2021) admitted that NEP-2020 addressed the issues of gender catering to the needs of minority communities, and young children with special needs Seethalakshmi, S. & Shyamala, K.(2022). opined that Vocational training, Research, Art & Languages, Digital education, and Internationalization of education have been given due importance in the NEP-2020. Bakshi et.al. (2022) noted that NEP-2020 has increased access, equity and inclusion through a range of measures, including greater opportunities for outstanding public education; scholarship for public and philanthropic universities, and for disadvantaged and under privileged students. Sengupta, P. (2022) mentioned that The NEP document is seemingly holistic keeping up with the United NationsVision 2030 and the Sustainable Development Goal 4 on inclusive education for all. Dhavaleshwar, C. (2022) acclaimed that the NEP-2020 is a complete framework for elementary education through higher education, as well as vocational training in both rural and urban India, the policy provides a comprehensive framework. By 2030, the policy seeks to have India's education system fully transferred. Reforms in higher education are being implemented following the National Educational Strategy 2020, which emphasises the need for holistic, multidisciplinary, and futuristic education as part of the national educational policy. Its primary focus is on sparking high-quality research and identifying the opportunities and requirements for the equitable use of technology to expand educational opportunities. Kumar, D. & Singh, M. (2020) explored that the most common barrier to a child's access to pre-school and primary education is disability. Less than 40% of school buildings have ramps, and only 17% of schools have accessible restrooms. According to the NEP, children with disabilities should be able to participate equally in all aspects of the educational system. Kumar, A. (2022) concluded that NEP-2020 has many

intrinsic propositions to improve the quality of school and higher education. It is researched focused and will be able to attain the national objectives of providing value-based, knowledge based, and skill-based higher education for everyone in the country.

## Objectives

The objectives of the present article are:

1. To highlights various aspects of inclusiveness in India in the light of the National Education Policy, 2020.
2. To examine various recommendations and goals of the National Education Policy, 2020 with special reference to inclusiveness and equitability in India.
3. To disclose various programmes and schemes with the help of research findings and databases.
4. To suggest a few research areas in the context of inclusiveness, equity and equality.

## Methodology

The methodology of the paper includes a conceptual evaluation of the National Education Policy, 2020. The paper highlights various parts of the policy with reference to inclusiveness, equity, and equality. Recent research journal articles have been reviewed. Relevant secondary data was collected from several websites, including government websites, magazines, newspapers, and other related publications.

## Aspects of Inclusiveness

In India, social categorization is very well known. There exist gaps between social categorization. Another important aspect of Inclusiveness is exceptionalchildren or children with special needs or a disabled child. Addressing Socio-Economically Disadvantaged Groups (SEDGs) is another important aspect of inclusiveness.The issue of geographical locations to be considered for inclusiveness. The female population is a greater part of Socio-Economically Disadvantaged Groups (SEDGs). Therefore, provisions for female inclusion are to be given emphasized. Sufficient funds are to be considered for the success of inclusiveness. Early childhood care and education are to be given priority along with the current schooling system.Moreover, the RPWD Act, 2016, school resources and awareness and knowledge of disabilities in teacher education programmes are to be given priority.

**Recommendations**

NEP-2020 recommends the following points for-inclusiveness in India (MHRD,2020, pp.24-28)

1. The policy appreciated the intervention programmes for SEDGs with special reference to castes, tribal communities, minority communities and children with special needs.
2. Different strategies will be created for focused attention on reducing the social category gaps in school education as outlined in the following sub-sections.
3. Many successful policies and schemes such as targeted scholarships, conditional cash transfers to incentivize parents to send their children to school, providing bicycles for transport, etc., that have significantly increased participation of SEDGs in the schooling system must be significantly strengthened across the country.
4. It will also be useful to consider research that ascertains which measures are particularly effective for certain SEDGs.
5. Large population areas of our country from educationally-disadvantaged SEDGs should be declared Special Education Zones (SEZs), where all the schemes and policies are implemented to the maximum through additional concerted efforts, in order to truly change their educational landscape.
6. The policies and schemes designed to include students from SEDGs should be especially targeted towards girls in these SEDGs.
7. The Government of India will establish a 'Gender-Inclusion Fund' to build the nation's capacity to provide equitable quality education for all girls as well as transgender students. The fund will be available to States to implement priorities determined by the Central government critical for assisting female and transgender children in gaining access to education (such as the provisions of sanitation and toilets, bicycles, conditional cash transfers, etc.); funds will also enable States to support effective community-based interventions that address local context-specific barriers to female and transgender children's access to education.
8. Free boarding facilities will be built - matching the standard of Jawahar Navodaya Vidyalayas - in school locations where students may have to come from far, particularly for students from socio-economically

disadvantaged backgrounds, with suitable arrangements for the safety of all children, especially girls. Kasturba Gandhi Balika Vidyalayas will be strengthened and expanded to increase the participation in quality schools (up to Grade 12) of girls from socio-economically disadvantaged backgrounds. Additional Jawahar Navodaya Vidyalayas and Kendriya Vidyalayas will be built around the country, especially in aspirational districts, Special Education Zones, and other disadvantaged areas, to increase high-quality educational opportunities. Pre-school sections covering at least one year of early childhood care and education will be added to Kendriya Vidyalayas and other primary schools around the nation, particularly in disadvantaged areas.

9. While preparing the National Curriculum Framework, NCERT will ensure that consultations are held with expert bodies such as the National Institutes of DEPwD.
10. Schools/school complexes will be provided resources for the integration of children with disabilities, recruitment of special educators with cross-disability training, and for the establishment of resource centres, wherever needed, especially for children with severe or multiple disabilities. Barrier-free access for all children with disabilities will be enabled as per the RPWD Act.
11. Adequate attention will be paid to the safety and security of children with disabilities.
12. Resource centres in conjunction with special educators will support the rehabilitation and educational needs of learners with severe or multiple disabilities and will assist parents/guardians in achieving high-quality home schooling and skilling for such students as needed. Home-based education will continue to be a choice available for children with severe and profound disabilities who are unable to go to school.
13. Assessment and certification agencies, including the proposed new National Assessment Centre, PARAKH, will formulate guidelines and recommend appropriate tools for conducting such assessments, from the foundational stage to higher education (including for entrance exams), in order to ensure equitable access and opportunities for all students with learning disabilities.
14. The awareness and knowledge to teach children with specific disabilities (including learning disabilities) will be an essential part of all teacher education programmes, along with gender sensitization and sensitization

towards all underrepresented groups in order to reverse their underrepresentation.

15. Alternative schooling will be supported and encouraged to protect their traditions or alternative teaching and styles. At the same time, they will be supported to integrate the subject and learning areas prescribed by the NCFSE into their curricula in order to reduce and eventually eliminate the underrepresentation of children from these schools in higher education.
16. Special attention will be given to reduce the disparities in the educational development of Scheduled Castes and Scheduled Tribes.
17. All scholarships and other opportunities and schemes available to students from SEDGs will be coordinated and announced by a single agency and website to ensure that all students are aware of, and may apply in a simplified manner on such a 'single window system', as per eligibility.
18. All participants in the school education system, including teachers, principals, administrators, counsellors, and students, will be sensitized to the requirements of all students to the notions of inclusion and equity, and to respect, the dignity, and privacy of all individual.
19. The school curriculum will include, early on, material on human values such as respect for all persons, empathy, tolerance, human rights, gender equality, non-violence, global citizenship, inclusion, and equity.

**Programmes and Schemes**

Programmes and schemes emphasized in NEP-2020 with special reference to inclusiveness and equity are analysed here.

1. Samagra Shiksha: It is primarily concerned with an equitable and inclusive classroom environment for all children from the pre-primary stage to senior secondary classes. The duration of the scheme is 5 years i.e., from 2021-22 to 2025-26. It is integrated with KGBVs, and vocational education. In the context of the expansion of schooling facilities for an inclusive, and equitable Indian society the scheme is important though it seems to be a new version of Sarva Shiksha Avijaan (2001).
2. SARTHAQ: It has been developed and communicated by the school's Education and Literacy Department in April 2021. It stands for Students' and Teachers' Holistic Advancement through Quality Education. It is directed to ensure uniformity in the school education system in India.

3. NIPUN BHARAT: It stands for National Initiative for Proficiency in Reading with Understanding and Numeracy. The scheme is initiated under Samagra Shiksha in July, 2021 for securing that each and every learner in the country necessarily attains Foundational Literacy and Numeracy (FLN) by the end of the 3rd standard. It is directed to all Govt., Govt. Aided Private institutions to implement it for the universal acquisition of FLN skills. The scheme is quite similar toTotal Literacy Campaign though it has a few new dimensions.
4. VIDYA PRAVESH: It is a school preparation model that focuses on the development of three-month play – an oriented model for grade-1 students by NCERT as per the recommendations of NEP,2020. All states and UTs are required to adopt and implement it to ensure that all grade-1 students are ready to take universal provisions of quality education. The scheme is relevant to implement the universalization of pre-school education.

## Research Areas

In the light of NEP-2020 and research literature, the following research areas can be suggested.

1. Research on the intervention programmes and schemes launched in the context of NEP-2020.
2. Research on the perceptions of all stakeholders, such as students of different levels, teachers, parents, policymakers, administrators etc.
3. Research can be conducted on the impediments to the policy state-wise.

## Conclusion

Indian society is pluralistic and multicultural. Differentiation and diversity go hand in hand in India. Inclusiveness and equitability are global needs of the hour, and India is gearing up to meet them. The NEP-2020 and its framework and related initiatives show the intention of our country's global and inclusive outlook. The goals and intentions of the policy can be accepted and welcomed. But integration and acceleration will be a big challenge for its implementation with the limited resources.A conducive social environment, the justification and application of government acts, and continuous research work are of the utmost importance. Moreover, increasing the awareness and knowledge of all stakeholders about the new education policy is the key to its success. It is obvious that the technology-friendly mindset of the teacher community is going to be crucial for years to come.

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# National Education Policy 2020: Its Aims and Visions

***Tumpa Paul**[*] and Bijaya Kumar Biswal**[**]***

***Abstract***

*The National Education Policy envisions an education system rooted in Indian ethos that contributes directly to transforming India, that is Bharat, sustainably into an equitable and vibrant knowledge society, by providing high-quality education to all, and thereby making India a global knowledge superpower. The Policy envisages that the curriculum and Pedagogy of our institutions must develop among the students a deep sense of respect towards the Fundamental Duties and Constitutional Values, bonding with one's country, and a conscious awareness of one's roles and responsibilities in a changing world. The Vision of the Policy is to instill among the learners a deep-rooted pride in being Indian, not only in thought but also in spirit, intellect, and deeds, as well as to develop knowledge, skills, values, and dispositions that will support responsible commitment to human and sustainable development which will reflected as a truly global citizen.*

## Introduction

The world is undergoing rapid changes in the knowledge landscape. With various dramatic scientific and technological advances, such as the rise of big data, machine learning, and artificial intelligence, many unskilled jobs worldwide may be taken over by machines, while the need for a skilled workforce, particularly involving mathematics, computer science, and data science, in conjunction with multidisciplinary abilities across the sciences, social sciences, and humanities, will be increasingly in greater demand. With climate change, increasing pollution, and depleting natural resources, there will be a sizeable shift in how we meet the world's energy, water, food, and sanitation needs, again resulting in the need for new skilled labour, particularly in biology, chemistry, physics, agriculture, climate science, and social science. The growing emergence of epidemics and pandemics will also call for collaborative research in infectious disease management and development of vaccines and the resultant social issues heightens the need for

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multidisciplinary learning. There will be a growing demand for humanities and art, as India moves towards becoming a developed country as well as among the three largest economies in the world. Indeed, with the quickly changing employment landscape and global ecosystem, it is becoming increasingly critical that children not only learn but more importantly learn how to learn. Education thus, must move towards less content, and more towards learning to think critically and solve problems, be creative and multidisciplinary, and innovate, adapt, and absorb new material in novel and changing fields. Pedagogy must evolve to make education more experiential, holistic, integrated, inquiry-driven, discovery-oriented, learner-centered, discussion-based, flexible, and, of course, enjoyable. The curriculum must include basic arts, crafts, humanities, games, sports and fitness, languages, literature, culture, and values, in addition to science and mathematics, to develop all aspects and capabilities of learners; and make education more well-rounded, useful, and fulfilling to the learner. Education must build character, enable learners to be ethical, rational, compassionate, and caring, while at the same time preparing them for gainful, fulfilling employment. The gap between the current state of learning outcomes and what is required must be bridged through major reforms that bring the highest quality, equity, and integrity system, from early childhood care and education to higher education.The aim must be for India to have an education system by 2040 that is second to none, with equitable access to the highest-quality education for all learners regardless of social or economic background.

**Previous policies**

The implementation of previous policies on education has focused largely on issues of access and equity. The unfinished agenda of the National Policy on Education 1986, modified in 1992 (NPE 1986/92), is appropriately dealt with in this Policy. A major development since the last Policy of 1986/92 has been the Right of Children to Free and Compulsory Education Act 2009 which laid down legal underpinnings for achieving universal elementary education.

**Principles of this policy**

The education system aims to develop good human beings capable of rational thought and action, possessing compassion and empathy, courage and resilience, scientific temper, and creative imagination, with sound ethical moorings and values. It aims at producing engaged, productive, and contributing citizens for building an equitable, inclusive, and plural society as envisaged by our Constitution.

A good education institution is one in which every student feels welcomed and cared for, where a safe and stimulating learning environment exists, where a

wide range of learning experiences are offered, and where good physical infrastructure and appropriate resources conducive to learning are available to all students. Attaining these qualities must be the goal of every educational institution. However, at the same time, there must also be seamless integration and coordination across institutions and across all stages of education.

**Aims of the NEP 2020**

This National Education Policy 2020 is the first education policy of the 21st century and aims to address the many growing developmental imperatives of our country. This Policy proposes the revision and revamping of all aspects of the education structure, including its regulation and governance, to create a new system that is aligned with the aspirational goals of the 21st century education, including SDG4, while building upon India's traditions and value systems. The National Education Policy lays particular emphasis on the development of the creative potential of each individual. It is based on the principle that education must develop not only cognitive capacities both the 'foundational capacities 'of literacy and numeracy and 'higher-order' cognitive capacities, such as critical thinking and Problem-solving – but also social, ethical, and emotional capacities and dispositions.

The fundamental principles that will guide both the education system at large, as well as the individual institutions within it are:

- **Recognizing, identifying, and fostering the unique capabilities of each student**, by sensitizing teachers as well as parents to promote each student's holistic development in both academic and non-academic spheres;
- **According to the** highest priority **to achieving Foundational Literacy and Numeracy** by all students by Grade 3;
- **Flexibility,** so that learners have the ability to choose their learning trajectories and programmes and thereby choose their own paths in life according to their talents and interests;
- **No hard separations** between arts and sciences, between curricular and extra-curricular activities, between vocational and academic streams, etc. in order to eliminate harmful hierarchies among, and silos between different areas of learning;
- **Multidisciplinarity and a holistic education** across the sciences, social sciences, arts,humanities, and sports for a multidisciplinary world in order to ensure the unity and integrity of all knowledge;

- **Emphasis on conceptual understanding** rather than rote learning and learning-for-examinations and **creativity and critical thinking** to encourage logical decision-making and innovation;
- **Ethics and human & Constitutional values** like empathy, respect for others, cleanliness,courtesy, democratic spirit, spirit of service, respect for public property, scientific temper, liberty, responsibility, pluralism, equality, and justice;
- **Promoting multilingualism and the power of language** in teaching and learning and **life skills** such as communication, cooperation, teamwork, and resilience;
- **Focus on regular formative assessment for learning** rather than the summative assessment that encourages today's 'coaching culture and **extensive use of technology** in teaching and learning, removing language barriers, increasing access for *Divyang* students, and educational planning and management;
- **Respect for diversity** and **respect for the local context** in all curriculum, pedagogy, and policy, always keeping in mind that education is a concurrent subject and full **equity and inclusion** as the cornerstone of all educational decisions to ensure that all students are able to thrive in the education system;
- **Synergy in curriculum across all levels of education** from early childhood care and education to school education to higher education.
- **Teachers and faculty as the heart of the learning process** – their recruitment, continuous professional development, positive working environments, and service conditions;
- 'A light **but tight**' **regulatory framework** to ensure **integrity**, **transparency**, and **resource efficiency** of the educational system through audit and public disclosure while encouraging innovation and out-of-the-box ideas through autonomy, good governance, and empowerment;
- **Outstanding research** as a co-requisite for outstanding education and development and **continuous review** of progress based on sustained research and regular assessment by educational experts;
- **Education is a public service;** access to quality education must be considered a basic right of every child and **substantial investment in a strong, vibrant public education system** as well as the encouragement and facilitation of true philanthropic private and community participation.

**The Vision of this Policy:**

This National Education Policy envisions an education system rooted in Indian ethos that contributes directly to transforming India, that is Bharat, sustainably into an equitable and vibrant knowledge society, by providing high-quality education to all, and thereby making India a global knowledge superpower. The Policy envisages that the curriculum and pedagogy of our institutions must develop among the students a deep sense of respect towards the Fundamental Duties and Constitutional values, bonding with one's country, and a conscious awareness of one's roles and responsibilities in a changing world. The vision of the Policy is to instill among the learners a deep-rooted pride in being Indian, not only in thought, but also in spirit, intellect, and deeds, as well as to develop knowledge, skills, values, and dispositions that support responsible commitment to human rights, sustainable development & living and global well-being, thereby reflecting a truly global citizen.

**i. Vision for school education**

This policy envisages that the 10+2 structure in school education will be modified with a new pedagogical and curricular restructuring of 5+3+3+4 covering ages 3-18 Currently, children in the age group of 3-6 are not covered in the 10+2 structure as Class 1 begins at age 6. In the new 5+3+3+4 structure, a strong base of Early Childhood Care and Education (ECCE) from age 3 is also included, which is aimed at promoting better overall learning, development, and well-being.

**1. Early Childhood Care and Education: The Foundation of Learning:**

Over 85% of a child's cumulative brain development occurs prior to the age of 6, indicating the critical importance of appropriate care and stimulation of the brain in the early years in order to ensure healthy brain development and growth. Presently, quality ECCE is not available to crores of young children, particularly children from socio-economically disadvantaged backgrounds. Strong investment in ECCE has the potential to give all young children such access, enabling them to participate and flourish in the educational system throughout their lives. Universal provisioning of quality early childhood development, care, and education must thus be achieved as soon as possible, and no later than 2030, to ensure that all students entering Grade 1 are school ready.

**2. Foundational Literacy and Numeracy: An Urgent & Necessary Pre-requisite to Learning:**

Attaining foundational literacy and numeracy for all children will thus become an urgent national mission, with immediate measures to be taken on many fronts and with clear goals that will be attained in the short term (including that every student

will attain foundational literacy and numeracy by Grade 3). The highest priority of the education system will be to achieve universal foundational literacy and numeracy in primary school by 2025. The rest of this Policy will become relevant for our students only if this most basic learning requirement (i.e., reading, writing, and arithmetic at the foundational level) is first achieved. To this end, a National Mission on Foundational Literacy and Numeracy will be set up by the Ministry of Human Resource Development (MHRD) on priority. Accordingly, all State/UT governments will immediately prepare an implementation plan for attaining universal foundational literacy and numeracy in all primary schools, identifying stage-wise targets and goals to be achieved by 2025, and closely tracking and monitoring the progress of the same.

**3. Curtailing Dropout Rates and Ensuring Universal Access to Education at All Levels**

One of the primary goals of the schooling system must be to ensure that children are enrolled in and are attending school. Through initiatives such as the Sarva Shiksha Abhiyan (now the Samagra Shiksha) and the Right to Education Act, India has made remarkable strides in recent years in attaining near-universal enrolment in elementary education. However, the data for later grades indicates some serious issues in retaining children in the schooling system. The GER for Grades 6-8 was 90.9%, while for Grades 9-10 and 11-12, it was only 79.3% and 56.5%, respectively – indicating that a significant proportion of enrolled students drop out after Grade 5 and especially after Grade 8. As per the 75th round household survey by NSSO in 2017-18, the number out-of-school children in the age group of 6 to 17 years is 3.22 crore. It will be a top priority to bring these children back into the educational fold as early as possible, and to prevent further students from dropping out, with a goal to achieve a 100% Gross Enrolment Ratio in preschool to secondary level by 2030. A concerted national efforts will be made to ensure universal access and afford the opportunity to all children of the country to obtain quality holistic education–including vocational education - from pre-school to Grade 12.

To facilitate learning for all students, with special emphasis on Socio-Economically Disadvantaged Groups (SEDGs), the scope of school education will be broadened to facilitatemultiple pathways to learning involving both formal and non-formal education modes. Open and Distance Learning (ODL) Programmes offered by the National Institute of Open Schooling (NIOS and State Open Schools will be expanded and strengthened for meeting the learning needs of young people in India who are not able to attend a physical school. NIOS and State Open Schools will offer the following programmes in addition to the present programmes: A, B,

and C levels are equivalent to Grades 3, 5, and 8 of the formal school system; secondary education programmes that are equivalent to Grades 10 and 12; vocational education courses/programmes; and adult literacy and life-enrichment programmes. States will be encouraged to develop these offerings in regional languages by establishing new/strengthening existing State Institutes of Open Schooling (SIOS)

**4. Curriculum and Pedagogy in Schools: Learning Should be Holistic, Integrated, Enjoyable, and Engaging**

- **Restructuring school curriculum and pedagogy in a new 5+3+3+4 design**

The curricular and pedagogical structure of school education will be reconfigured to make it responsive and relevant to the developmental needs and interests of learners at different stages of their development, corresponding to the age ranges of 3-8, 8-11, 11-14, and 14-18 years, respectively.The curricular and pedagogical structure and the curricular framework for school education will therefore be guided by a 5+3+3+4 design, consisting of the Foundational Stage (in two parts, that is 3 years of Anganwadi/pre-school + 2 years in primary school in Grades 1-2; both together covering ages 3-8), Preparatory Stage (Grades 3-5, covering ages 8-11), Middle Stage (Grades 6-8, covering ages 11-14), and Secondary Stage (Grades 9-12 in two phases, i.e., 9 and 10 in the first and 11 and 12 in the second, covering ages 14-18).

- **Holistic development of learners**

The key overall thrust of curriculum and pedagogy reform across all stages will be to move the education system towards real understanding and towards learning how to learn - and away from the culture of rote learning is largely present today. The aim of education will not only be cognitive development, but also building character and creating holistic and well-rounded individuals equipped with the key 21st-century skills. Ultimately, knowledge is a deep-seated treasure and education helps in its manifestation as the perfection which is already within an individual.

- **Reduce curriculum content to enhance essential learning and critical thinking**

Curriculum content will be reduced in each subject to its core essentials, to make space for critical thinking and more holistic, inquiry-based, discovery-based, discussion-based, and analysis-basedlearning. The mandated content will focus on key concepts, ideas, applications, and problem solving. Teaching and learning will be conducted in a more interactive manner; questions will be encouraged, and classroom sessions will regularly contain more fun, creative, collaborative, and exploratory activities for students for deeper and more experiential learning.

- **Experiential learning**

In all stages, experiential learning will be adopted, including hands-on learning, arts-integrated and sports-integrated education, story-telling-based pedagogy, among others, as standard pedagogy within each subject, and with explorations of relations among different subjects. To close the gap in the achievement of learning outcomes, classroom transactions will shift, towards competency-based learning and education. The assessment tools (including assessment "as", "of", and "for" learning) will also be aligned with the learning outcomes, capabilities, and dispositions as specified for each the subject of a given class.

- **Empower students through flexibility in course choices Teachers:**

Students will be given increased flexibility and choice of subjects to study, particularly in secondary school - including subjects in physical education, arts and crafts, and vocational skills – so that they can design their own paths of study and life plans. Holistic development and a wide choice of subjects and courses year to year will be the new distinguishing feature of secondary school education. There will be no hard separation among 'curricular', 'extracurricular', or 'co-curricular', among 'arts', 'humanities', and 'sciences', or between 'vocational' or 'academic' streams. Subjects such as physical education, arts and crafts, and vocational skills, in addition to science, humanities, and mathematics, will be incorporated throughout the school curriculum, with a consideration for what is interesting and safe at each age.

- **Multilingualism and the power oflanguage:**

It is well understood that young children learn and grasp nontrivial concepts more quickly in their home language/mother tongue. The home language is usually the same language as the mother tongue or that which is spoken by local communities. However, at times in multi-lingual families, there can be a home language spoken by other family members which may sometimes be different from mother tongue or local language. Wherever possible, the medium of instruction until at least Grade 5, but preferably till Grade 8 and beyond, will be the home language/mother tongue/ local language/regional language.

- **Curricular Integration of Essential Subjects, Skills, and Capacities**

Concerted curricular and pedagogical initiatives, including the introduction of contemporary subjects such as Artificial Intelligence, Design Thinking, Holistic Health, Organic Living, Environmental Education, Global Citizenship Education (GCED), etc. at relevant stages will be undertaken to develop these various important skills in students at all levels.

- **National Curriculum Framework for School Education (NCFSE)**

The formulation of a new and comprehensive National Curricular Framework for School Education, NCFSE 2020-21, will be undertaken by the NCERT - based on the principles of this National Education Policy 2020, frontline curriculum needs, and after discussions with all stakeholders including the State Governments, Ministries, relevant Departments of the Central Government, and other expert bodies, and will be made available in all regional languages. The NCFSE document shall henceforth be revisited and updated once every 5-10 years, taking into account frontline curriculum.

- **Transforming Assessment for Student Development**
- **Support for Gifted Students/Students with Special Talents**

**5. Emphasis on Teacher:**

Teachers truly shape the future of our children - and, therefore, the future of our nation. It is because of this noblest role the teacher in India was the most respected member of society. Only the very best and most learned became teachers. Society gave teachers or gurus, what they needed to pass on their knowledge, skills, and ethics optimally to students. The quality of teacher education, recruitment, deployment, service conditions, and empowerment of teachers arenot where it should be, and consequently the quality and motivation of teachers donot reach the desired standards. The high respect for teachers and the high status of the teaching profession must be restored so as to inspirethe best to enter the teaching profession. The motivation and empowerment of teachers is required to ensure the best possible future for our children and our nation.

Recruitment and Deployment of Teacher.

Continuous Professional Development (CPD) and Professional Standards for Teacher of teacher.

**6. Equitable and Inclusive Education: Learning for all**

Education is the single greatest tool for achieving social justice and equality. Inclusive and equitable education - while indeed an essential goal in its own right - is also critical to achieving an inclusive and equitable society in which every citizen has the opportunity to dream, thrive, and contribute to the nation. The education system must aim to benefit India's children so that no child loses any opportunity to learn and excel because of circumstances of birth or background

**7. Efficient Resourcing and Effective Governance through School Complexes/Clusters**

**8. Standard-setting and Accreditation for School Education**

**ii. Vision for higher education**

**Quality Universities and Colleges: A New and Forward-looking Vision for India's Higher Education System**

Higher education plays an extremely important role in promoting human as well as societal well-beingand in developing India as envisioned in its Constitution - a democratic, just, socially conscious, cultured, and humane nation upholding liberty, equality, fraternity, and justice for all.Higher education significantly contributes towards sustainable livelihoods and economic development of the nation. As India moves towards becoming a knowledge economy and society, more and more young Indians are likely to aspire tohigher education.

Given the 21st century requirements, quality higher education must aim to develop good, thoughtful, well-rounded, and creative individuals. It must enable an individual to study one or more specialized areas of interest at a deep level, and also develop character, ethical and Constitutional values, intellectual curiosity, scientific temper, creativity, spirit of service, and 21st-centurycapabilities across a range of disciplines including sciences, social sciences, arts, humanities, languages, as well as professional, technical, and vocational subjects. A quality higher education must enable personal accomplishment and enlightenment, constructive public engagement, and productive contribution to society. It must prepare students for more meaningful and satisfying lives and work roles and enable economic independence.

**Some of the major problems currently faced by the higher education system in India includs:**

(a) a severely fragmented higher educational ecosystem;

(b) less emphasis on the development of cognitive skills and learning outcomes;

(c) a rigid separation of disciplines, with early specialization and streaming of students into narrow areas of study;

(d) limited access particularly in socio-economically disadvantaged areas, with few HEIs that teach in local languages

(e) limited teacher and institutional autonomy;

(f) inadequate mechanisms for merit-based career management and progression of faculty and institutional leaders;

(g) lesser emphasis on research at most universities and colleges, and lack of competitive peer-reviewedresearch funding across disciplines;

(h) sub-optimal governance and leadership of HEIs;

(i) an ineffective regulatory system; and

(j) large affiliating universities resulting in low standards of undergraduate education.

This policy envisions a complete overhaul and re-energizing of the higher education system to overcome these challenges and thereby deliver high-quality higher education, with equity and inclusion.

**The policy's vision includes the following key changes to the current system:**

(a) moving towards a higher educational system consisting of large, multidisciplinary universities and colleges, with at least one in or near every district, and with more HEIs across India that offer a medium of instruction or programmes in local/Indian languages;

(b) moving towards a more multidisciplinary undergraduate education;

(c) moving towards faculty and institutional autonomy;

(d) revamping curriculum, pedagogy, assessment, and student support for enhanced student experiences;

(e) reaffirming the integrity of faculty and institutional leadership positions through merit appointments and career progression based on teaching, research, and service;

(f) establishment of a National Research Foundation to fund outstanding peer-reviewed research and to actively seed research in universities and colleges;

(g) governance of HEIs by highly qualified independent boards having academic and administrative autonomy;

(h) "light but tight" regulation by a single regulator for higher education;

(i) increased access, equity, and inclusion through a range of measures, including greater opportunities for outstanding public education; scholarships by private/philanthropic universities for disadvantaged and

underprivileged students; online education, and Open Distance Learning (ODL); and all infrastructure and learning materials accessible and available to learners with disabilities.

**Institutional Restructuring and Consolidation**

This vision of higher education will require, in particular, a new conceptual perception/understanding of what constitutes a higher education institution (HEI), i.e., a university or a college. A university will mean a multidisciplinary institution of higher learning that offers undergraduate and graduate programmes, with high-quality teaching, research, and community engagement. The definition of the university will thus allow a spectrum of institutions that range from those that place equal emphasis on teaching and research i.e., Research-intensive Universities, that place greater emphasis on teaching but still conduct significant research i.e. Teaching-intensive Universities. Meanwhile, an Autonomous degree-granting College (AC) will refer to a large multidisciplinary institution of higher learning that grants undergraduate degrees and is primarily focused on undergraduate teaching though it would not be restricted to that and it need not be restricted to that and it would generally be smaller than a typical university.

**Towards a More Holistic and Multidisciplinary Education:**

A holistic and multidisciplinary education would aim to develop all capacities of human beings-intellectual, aesthetic, social, physical, emotional, and moral in an integrated manner. Such an education will help develop well-rounded individuals that possess critical 21st-century capacities in fields across the arts, humanities, languages, sciences, social sciences, and professional, technical, and vocational fields; an ethic of social engagement; soft skills, such as communication, discussion, and debate; and rigorous specialization in a chosen field or fields. Such a holistic education shall be, in the long term, the approach of all undergraduate programmes, including those in professional, technical, and vocational disciplines.

**Optimal Learning Environments and Support for Students**

Effective learning requires a comprehensive approach that involves an appropriate curriculum, engaging pedagogy, continuous formative assessment, and adequate student support. The curriculum must be interesting and relevant and updated regularly to align with the latest knowledge requirements and to meet specified learning outcomes. High-quality pedagogy is then necessary to successfully impart the curricular material to students; pedagogical practices determine the learning experiences that are provided to students, thus directly influencing learning outcomes. The assessment methods must be scientific, designed to continuously

improve learning and test the application of knowledge. Last but not least, the development of capacities that promote student wellness such as fitness, good health, psycho-social well-being, and sound ethical grounding are also critical for high-quality learning.

**Motivated, Energized, and Capable Faculty**

The most important factor in the success of higher education institutions is the quality and engagement of its faculty. Acknowledging the criticality of faculty in achieving the goals of higher education, various initiatives have been introduced in the past several years to systematize recruitment and career progression, and to ensure equitable representation from various groups in the hiring of faculty. Compensation levels of permanent faculty in public institutions have also been increased substantially. Various initiatives have also been taken toward providing faculty with professional development opportunities. However, despite these various improvements in the status of the academic profession, faculty motivation in terms of teaching, research, and service in HEIs remains far lower than the desired level. The various factors that lie behind low faculty motivation levels must be addressed to ensure that each faculty member is happy, enthusiastic, engaged, and motivated towards advancing her/his students, institution, and profession. To this end, the policy recommends the following initiatives to achieve the best, most motivated, and most capable faculty in HEIs.

**Equity and Inclusion in Higher Education**

Entry into quality higher education can open a vast array of possibilities that can lift both individuals as well as communities out of the cycles of disadvantage. For this reason, making quality higher education opportunities available to all individuals must be among the highest priorities. This The policy envisions ensuring equitable access to quality education forall students, with a special emphasis on SEDG.

For this purpose, additional actions that are specific to higher education shall be adopted by all Governments and HEIs:

Steps to be taken by Governments

(a) Earmark suitable Government funds for the education of SEDGs

(b) Set clear targets for higher GER for SEDGs

(c) Enhance gender balance in admissions to HEIs

(d) Enhance access by establishing more high-quality HEIs in aspirational districts and Special Education Zones containing larger numbers of SEDGs

(e) Develop and support high-quality HEIs that teach in local/Indian languages or bilingually

(f) Provide more financial assistance and scholarships to SEDGs in both public and private HEIs

(g) Conduct outreach programmes on higher education opportunities and scholarships among SEDGs

(h) Develop and support technology tools for better participation and learning outcomes.

**Steps to be taken by all HEIs**

(a) Mitigate opportunity costs and fees for pursuing higher education

(b) Provide more financial assistance and scholarships to socio-economically disadvantaged students

(c) Conduct outreach on higher education opportunities and scholarships

(d) Make admissions processes more inclusive

(e) Make curriculum more inclusive

(f) Increase employability potential of higher education programmes

(g) Develop more degree courses taught in Indian languages and bilingually

(h) Ensure all buildings and facilities are wheelchair-accessible and disabled-friendly

(i) Develop bridge courses for students that come from disadvantaged educational backgrounds

(j) Provide socio-emotional and academic support and mentoring for all such students through suitable counseling and mentoring programmes

(k) Ensure sensitization of faculty, counselor, and students on gender-identity issuesand its inclusion in all aspects of the HEI, including curricula

(l) Strictly enforce all no-discrimination and anti-harassment rules

(m) Develop Institutional Development Plans that contain specific plans for action on increasing participation from SEDGs, including but not limited to the above items.

**Teacher Education**

Teacher education is vital in creating a pool of schoolteachers that will shape the next generation. Teacher preparation is an activity that requires multidisciplinary perspectives and knowledge, formation of dispositions and values, and development of practice under the best mentors. Teachers must be grounded in Indian values,

languages, knowledge, ethos, and traditions including tribal traditions, while also being well-versed in the latest advances in education and pedagogy. As teacher education requires multidisciplinary inputs, and education in high-quality content as well as pedagogy, all teacher education programmes must be conducted within composite multidisciplinary institutions. To this end, all multidisciplinary universities and colleges - will aim to establish, education departments which, besides carrying out cutting-edge research in various aspects of education, will also run B.Ed. programmes, in collaboration with other departments such as psychology, philosophy, sociology, neuroscience, Indian languages, arts, music, history, literature, physical education, science, and mathematics. Moreover, all stand-alone TEIs will be required to convert to multidisciplinary institutions by 2030, since they will have to offer the 4-year integrated teacher preparation programme.

**Reimagining Vocational Education**

This policy aims to overcome the social status hierarchy associated with vocational education and requires the integration of vocational education programmes into mainstream education in all education institutions in a phased manner. Beginning with vocational exposure at early ages in middle and secondary school, quality vocational education will be integrated smoothly into higher education. It will ensure that every child learns at least one vocation and is exposed to several more. This would lead to emphasizing the dignity of labour and the importance of various vocations involving /Indian arts and artisanship. By 2025, at least 50% of learners through the school and higher education system shall have exposure to vocational education, for which a clear action plan with targets and timelines will be developed.

**Catalyzing Quality Academic Research in All Fields through a new National Research Foundation**

India has a long historical tradition of research and knowledge creation, in disciplines ranging from science and mathematics to art and literature to phonetics and languages to medicine and agriculture. This needs to be further strengthened to make India lead research and innovation in the 21st century, as a strong and enlightened knowledge society and one of the three largest economies in the world. Thus, this Policy envisions a comprehensive approach to transforming the quality and quantity of research in India. This includes definitive shifts in school education to a more play and discovery-based style of learning with an emphasis on the scientific method and critical thinking. This includes career counseling in schools towards identifying student interests and talents, promoting research in universities, the multidisciplinary nature of all HEIs and the emphasis on holistic education, the

inclusion of research and internships in the undergraduate curriculum, faculty career management systems that give due weight age to research, and the governance and regulatory changes that encourage an environment of research and innovation. All of these aspects are extremely critical for developing a research mindset in the country.

**Transforming the Regulatory System of Higher Education**

Regulation of higher education has been too heavy-handed for decades; too much has been attempted to be regulated with too little effect. The mechanistic and disempowering nature of the regulatory system has been rife with very basic problems, such as heavy concentrations of power within a few bodies, conflicts of interest among these bodies, and a resulting lack of accountability. The regulatory system is in need of a complete overhaul in order to re-energize the higher education sector and enable it to thrive. The Four structures will be set up as four independent verticals within one umbrella institution, the Higher Education Commission of India (HECI).

1. The first vertical of HECI will be the National Higher Education Regulatory Council (NHERC).
2. The second vertical of HECI will, therefore, be a 'meta-accrediting body', called the National Accreditation Council (NAC
3. The third vertical of HECI will be the Higher Education Grants Council (HEGC),
4. The fourth vertical of HECI will be the General Education Council (GEC),

It will function as the common, single-point regulator for the higher education sector including teacher education and excluding medical and legal education, thus eliminating the duplication and disjunction of regulatory efforts by the multiple regulatory agencies that exist at the current time.

Professional councils, such as the Indian Council for Agricultural Research (ICAR),

Veterinary Council of India (VCI), National Council for Teacher Education (NCTE), Council of Architecture (CoA), National Council for Vocational Education and Training (NCVET), etc., will act.

**Effective Governance and Leadership for Higher Education Institutions**

It is effective governance and leadership that enables the creation of a culture of excellence and innovation in higher education institutions. The common feature of all world-class institutions globally including India has indeed been the existence of strong self-governance and outstanding merit-based appointments of institutional leaders.

**iv. Other visions NEP 2020:**

The other Visions of NEP 2020 Following Given Below: -

- **Emphasis on Professional Education**
- **Adult Education and Lifelong Learning**
- **Promotion of Indian Languages, Arts, and Culture**
- **Technology Use and Integration**
- **Online and Digital Education**

Given the emergence of digital technologies and the emerging importance of leveraging technology for teaching-learning at all levels from school to higher education, this Policy recommends the following key initiatives:

(a) *Pilot studies for online education:*

(b) *Digital infrastructure:*

(c) *Online teaching platform and tools:*

(d) *Content creation, digital repository, and dissemination:*

(e) *Addressing the digital divide:*

(f) *Virtual Labs: Emphasis on Existing e-learning platforms such as DIKSHA, SWAYAM and SWAYAMPRABHA*

(g) *Training and incentives for teachers:*

(h) *Online assessment and examinations:*

(i) *Blended models of learning.*

(j) *Laying down standards:*

**Conclusion:**

The teacher must be at the center of the fundamental reforms in the education system. The new education policy must help re-establish teachers, at all levels, as the most respected and essential members of our society, because they truly shape our next generation of citizens. It must do everything to empower teachers and help them to do their job as effectively as possible. The new education policy must help recruit the very best and brightest to enter the teaching profession at all levels, by ensuring livelihood, respect, dignity, and autonomy, while also instilling in the systematic methods of quality control and accountability. The new education policy must provide to all students, irrespective of their place of residence, a quality education system, with a particular focus on historically marginalized, disadvantaged, and underrepresented groups. Education is a great leveler and is the best tool for achieving economic and social mobility, inclusion, and equality.

Initiatives must be in place to ensure that all students from such groups, despite inherent obstacles, are provided various targeted opportunities to enter and excel in the educational system.

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# Quality in Higher Education through Student Centric Approach : Credit Framework in the light of NEP 2020

***Pankaj Sarkar****

***Abstract***

*In the changing landscape of higher education, there has been a paradigm shift from the Annual to the Semester evaluation system. Against this backdrop, CBCS has emerged as a new tool for assessing students in their higher education. The choice-Based Credit system (CBCS) provides an alternative for scholars to pick out courses from the prescribed courses (Elective or Soft-skill). It provides a 'cafeteria' approach, where learners learn at their own pace, study extra courses and acquires quite the minimum needed credits, choose their subjects as their interest, adopts an interdisciplinary approach to learning, and have the flexibility to earn the credits through different online platforms such as MOOC's, SWAYAM portal, etc. They can also easily earn credits from other institutions where CBCS is running.*

*National Education Policy (NEP) 2020 seeks to reform the Higher Education system by providing, among other things, flexibility to students in terms of choice of subjects to study and academic pathways. A creative combination of disciplines for study with multiple entry and exit points is one crucial recommendation of NEP 2020. The NEP 2020 envisages strengthening the Choice-Based Credit System (CBCS) to instill innovation and flexibility. It mentions that HEIs shall move to a criterion-based grading system that assesses student achievement based on the learning goals for each program, making the system fairer and outcomes more comparable. It also says that HEIs should move away from high-stakes tests in favor of more continuous and thorough evaluations. (NEP, 2020).The undergraduate degree will be of 4-year duration, with multiple exit options within this period, with appropriate certifications, e.g., After completing 1 year in a discipline or field, including vocational and professional areas, the students will get a certificate. After the completion of 2 years, the students will get a diploma. After the completion of 3 years, the students will get Bachelor's degree. After 4 years, the students will get a multidisciplinary Bachelor's program shall be the preferred option. The 4-year program may also lead to a degree 'with Research' if the student completes*

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*a rigorous research project in their major area(s) of study as specified by the HEI. Similar flexibility will also be applied to post-graduation. (NEP, 2020)*

***Keywords:*** *Quality, flexible learning, student-centric approach,Credit Framework, HEIs*

## 1. Introduction:

Education is the underpinning of nation-building, and it is said that the education level reflects the nation's status. Since independence, India's education system has undergone massive changes to meet the new challenges. There is enough evidence to believe things are still changing in the education sector. The Central and State governments are making their own attempts to rewind and reinvent higher education. The main responsibility lies upon the University Grants Commission (UGC), a statutory body established by an Act of Parliament in 1956 for the coordination, determination and maintenance of standards of university education (UGC, 2018). According to the statistics of the All India Survey on Higher Education (2018 19), there are 993 Universities, 39931 colleges and 10725 Stand Alone Institutions in India (AISHE, 2018-19), which are mentored by the policies and guidelines developed by the UGC. In consultation with the concerned authorities, universities, and institutions, the UGC recommends necessary actions to improve university education. Since its inception, it has been trying to bring equity, efficiency and quality to the country's higher education system.

Despite all efforts, it has been noticed that students were lacking in knowledge, values, confidence and skills. It was also found that the education was more teacher-centric, and no flexibility was provided to students. The evaluation pattern was also rigid based on marks or percentages. These alarming findings compelled UGC to drastically change the higher education system (UGC, 2009, 2012 and 2014).

According to UGC (2014), the lack of flexibility in Higher Education in India can be contained by adopting an internationally acknowledged system, the Choice Based credit system (CBCS). Through this system, opportunities can be provided to students to study the courses of their own choice and interest in any field, and learners can explore additional 2 avenues of learning beyond the core subjects for their holistic development. As it was quoted by UGC (2014), "The CBCS will undoubtedly facilitate us benchmark our courses with best international academic practices". The CBCS was recommended to be implemented in all the higher education Institutes and Universities in India since 2015.

**1.1** In the changing landscape of higher education, there has been a ***paradigm shift*** from the Annual system of evaluation to the Semester system of evaluation. Against this backdrop, CBCS has emerged as a new tool for the assessment process of students in their higher education. The choice-Based Credit system (CBCS) provides an alternative for scholars to pick out courses from the prescribed courses (Elective or Soft-skill courses). It provides a 'cafeteria' approach, where learners learn at their own pace, study extra courses and acquire quite the minimum needed credits, choose their subjects as their own interest, adopts an interdisciplinary approach to learning, flexibility to earn the credits through different online platforms such as MOOCs, SWAYAM portal etc. Apart from this, they can easily earn their credits from other institutions where CBCS are running.

In CBCS, the measuring unit of learning is a credit or contact hour. This credit system was initially highly used in the Distance or Open Learning System compared to the Face-to-Face mode of education. But Face to Face Education or Conventional Education is also trying to use this credit-based education and assessment on a wider scale. CBCS can be seen as a step to assess and measure the learning system quantitatively for better evaluation and other applicability.

Another specific feature of CBCS is the semester system of evaluation. It is a paradigm shift as it moves from the Annual evaluation system to the Semester evaluation system. There are many Universities and Institutions which have already introduced the semester system of evaluation; many are in the process of introducing the semester system of evaluation, and the rest are in the process of preparing the ground for introducing a semester pattern of evaluation. In the same way, it is expected that CBCS will bring a paradigm shift in the present evaluation system. There are many Universities and Institutions which have already introduced CBCS, and there are some other Universities and Institutions which are in the process of introducing CBCS or in the process of preparing the ground for introducing CBCS.

One of the apex regulatory bodies of the country's higher education system is the University Grant Commission (UGC). Along with other educational regulatory bodies such as the All India Council for Technical Education (AICTE), the Council for Scientific and Industrial Research (CSIR), the Indian Council for Social Science Research (ICSSR), etc., UGC takes many steps to enhance the quality of higher education in terms of curriculum, teaching processes and assessment systems, including the introduction of CBCS in higher education. The introduction and implementation of CBCS in the country's higher education institutions are viewed by UGC as an institutional reform initiative in higher education institutions. (Basantia, 2019)

**1.2 Need of Choice-Based Credit System:** There are several objectives in the higher education system which can be achieved with the implementation of CBCS. The main reasons or objectives for using CBCS in the education system are described below:

### 1.2.1 To Maintain Equity, Quality and Excellence in Higher Education

CBCS is a core or common assessment or evaluation framework pattern along with the flexibility. Although the pattern is common, the pattern takes into account the individual demand and requirements. Along with a standardized grading style, individual learning pace, interest, aptitude, choice and demand are also considered in this system. One special feature of this pattern is uniformity along with variety. Consequently, it contributes to equity in the education sector.

Previously there were various diversities in the teaching-learning and evaluation system. Because of these diversities, it was hard to maintain the standards and quality benchmarks in the teaching-learning process and its evaluation system. Yet as an advancement in the evaluation system, CBCS aims to establish a common structure or standard for teaching the learning and assessment system. The institutions that follow CBCS must follow the basic CBCS guidelines and principles, which ensure a basic level of consistency in the teaching-learning and assessment system. CBCS aims to break an institution's monotony in its curriculum planning, teaching-learning process and evaluation process and helps an institution achieve some consistency of quality in the teaching-learning process and evaluation processes. If CBCS is implemented and maintained in a true spirit within an institution, it leads the institution to achieve excellence in its objectives. An institution is expected to achieve a perfect or excellent standard in its teaching, learning and evaluation system if it adopts CBCS in a meaningful and objective manner. CBCS creates a pathway for an educational system to achieve an excellent environment. (Basantia, 2019)

### 1.2.2 Internationally Acknowledged System of Learning and Evaluation

As per the requirement of time, there is a need for such type of education where the knowledge and skills can get equal weightage. Both Choice-based education and Credit-based education have gained great fame in the global education market. Many countries of the world are introducing Choice-based and Credit-based education and evaluation frameworks with various nomenclatures. It is expected that in the near future the whole education system of the world will be inclined towards choice-based and credit-based education. (Basantia, 2019)

### 1.2.3 To Maintain the Indian Higher Education System as Comparable with World Standards

CBCS has a significant role to play in sustaining the Indian Higher Education System as comparable to World Standards. Many developed world societies, such as European Societies, Australia, the USA, Japan, etc., have already embraced Choice-based and Credit-based education by recognizing its significance. They have their own format of Choice based and Credit based education like-

- European Credit Transfer System (ECTS) in European Universities
- National Qualification Framework in Australia
- Credit-based Education System of US, Japan etc.

If the Indian education system adopts CBCS in the right manner, then its education system shall be compared with many leading countries of the world. Considering all these contexts and purposes, CBCS is widely accepted and appreciated in our education system. (Basantia, 2019)

## 1.3 Salient Features of Choice-Based Credit System:

- Anytime, Anywhere Learning – Inter College – Inter-University Transfers.
- Multiple Entry and Multiple Exit with Horizontal and Vertical mobility.
- Reinforced learning through L-T-P (Lectures-Tutorials-Practical Sessions)
- The relative importance of the course and the activities are assessed in terms of credits.
- The programmes of the study are structured on the semester scheme, where each academic year is divided into two semesters.
- Assessment of the learner's performance is based on the uniform method of evaluation which is calculated using Semester Grade Point Average (SGPA) and Cumulative Grade Point Average (CGPA).
- Common Minimum Syllabi for the programmes in all parts of the country.
- Amalgamation of Skills Development Courses in the Curricula. (Lalrinzuali, 2017)

### 1.4 Significance

CBCS has many merits or advantages, which are mentioned in below:

*Firstly,* **Adoption of Uniform Pattern of Evaluation is a significant merit of CBCS:** Through CBCS, adoption of uniform pattern of evaluation across the institutions is possible. This helps the students to move across institutions without any difficulty. Further, it becomes easier for the stakeholders of education to understand the performance of the candidates or students through CBCS system as CBCS follows the common pattern of assessment.

*Secondly,* **Quantification of the learning process is an important feature of CBCS**: Credit is a unit of measuring Coursework or Course of learning in CBCS. In CBCS, the entire Coursework is converted into a number of Credits, and on the basis of Credits earned at different levels by a student, grading is assigned to him or her and accordingly his/her performance is assessed. So, in the CBCS system, the entire learning process is quantified through the measuring rod of credit.

*Thirdly,* **CBCS meets the Global Needs of Evaluation in the Liberalization, Privatization and Globalization Era (or LPG era):** Because, CBCS is easily intelligible or understood at the international level. It has a high implication for creating an easily understood platform for academics as well as recruitment at the international level. In the Liberalization, Privatization and Globalization (LPG) era, there is a need for migration of students, employers, employees and scholars from one corner to another corner of the world. Since CBCS is quite easy to understand, it facilitates migration of students, employers, employees and scholars at the international level.

*Fourthly,* **CBCS allows Mobility of Students to Different Institutions within and across Countries:** Since CBCS follows a common standard or guideline for learning as well as evaluation across the institutions, so, it becomes easier on the part of students to move from one institution to another institution across the country as well as across the different parts of the world. CBCS helps for both-

- *Vertical and Horizontal Mobility, and*
- *Mobility through Credit Transfer*

CBCS allows for vertical mobility of students from one level of programme to another level of programme. For example, in many cases, it is found that for taking admission in a particular Post Graduate Programmes in a discipline the

criteria is completion of minimum number of credits in Undergraduate Programmes in the same discipline or its allied disciplines.

In the same way, CBCS allows for horizontal mobility of students from one institution to other institutions. For example, a student is free to complete some portion of Courses of a Programme from one institution and the rest of Courses of the same Programme from other institutions, if both the institutions have the equal type of Programmes with respect to their nature and characteristics. For example, a student can complete 50% courses of a programme (say, M.A. English) from Central University of South Bihar, and rest 50% courses in Banaras Hindu University, if there is equivalence among M.A. English programme of these two institutions.

Credit transfer from one institution to another institution helps a lot for institutional mobility of students. Credit transfer is the means through which institutional mobility is possible.

*Fifthly,* **CBCS promotes Learner Centered Learning in many parameters:** It is a flexible approach of learning and evaluation. It promotes learner centred learning in terms of-

- *Choice of Courses*
- *Pace of Learning*
- *Design of Syllabus, etc.*

In this system the learner has freedom to choose the courses of his/ her learning from his/ her discipline or from other disciplines.

Further, in this system, the learner learns at his/her own pace. For example, if a learner cannot complete the required number of courses of a Programme in a particular semester, he/she can complete such uncompleted courses in subsequent semesters as per defined guidelines for the purpose.

CBCS model follows a flexible approach of curriculum design. In this model, except some specified Core courses, in all other courses which include Core courses, Elective courses and Skill based courses (if any), the institutions are given freedom to design the courses as per their requirement. This helps the educational institutions to maintain their unique flavour and character in their course design.

*Sixthly,* **Adopting 'Cafeteria' Approach in Educational Activities is highly possible through this CBCS approach:** When we sit in a cafeteria we can choose and order our dish as per our demand and requirement. In the CBCS

model, a learner can choose the courses as per his/her interest and demand. In this model, a learner is free enough to choose the courses of his/her learning across the disciplines starting from inter-discipline to intra-discipline. For example, a student of a Language Programme can also take some Courses of 'physics' and 'chemistry', if he/she desires so, in respect of completing the Language Programme.

*Seventhly,* **CBCS focuses on both Intra-disciplinary and Inter- disciplinary Learning at a time:** In CBCS, a learner is not restricted to learn the Courses or Papers of his/her own discipline only. In this system, a learner can take some Courses from other disciplines as per his/her liking and interest. CBCS encourages the learner to acquire intra- disciplinary and inter-disciplinary knowledge and skill at the same time.

*Eighthly,* **CBCS is a Holistic Approach to Learning as well as Evaluation:** It aims at holistic or total or integral development of a learner. It not only provides the core courses and ability enhancement courses to the learners, but also it provides elective courses to the learners. The main concern of including elective courses in a programme is to help the learners to attain their diverse interest and creativity through their learning. CBCS allows a learner to choose the elective Courses as per his/her requirement in order to fulfil his/her multi-dimensional development tasks. Hence, it is considered as a holistic approach to learning and development. Further, it assesses the holistic aspects of learning and development. In this system, along with external assessment, there is sufficient scope for internal assessment, touching the different dimensions of behaviour. So, this evaluation system is quite comprehensive and continuous in nature.

*Ninthly,* **CBCS is a shift in Focus from Traditional Approach of Marking to Grading System:** The traditional approach of evaluation is either based upon a marking system or grading system or both marking and grading systems. Further, in the traditional pattern of evaluation, there are numerous ways of marking and grading across institutions, and such ways of marking and grading are not easily understood and interpreted by the stakeholders of education and many other personnel including employers. But, CBCS is a paradigm shift in the evaluation system, and in this system the marks are converted into grades and in this system the uniform grading system is followed across the institution. Therefore, the system is widely appreciated in the educational world.

*Tenthly,* **In this system, Employers finds Easy to understand the Ability and Aptitude of Students for selecting them in Different Jobs:** Because, in

CBCS, a common format or guideline is followed for measuring the coursework as well as assessing the performance of the learner. The common format for measuring coursework is credit and the common format for assessing the performance is grade or grading system. So, under CBCS format, it becomes very much easier for the employer to understand the ability and aptitude of students for selecting them for different jobs.

### 1.5 Key Terminologies of CBCS:

Choice Based Credit System includes some special or unique terminologies. Each terminology used in CBCS has proper definition or meaning. So, the common and most frequently used terminologies of CBCS, and what meaning they imply are mentioned in below:

**Academic Year**: Academic year has a distinct meaning in CBCS. CBCS follows the semester system. In CBCS model of evaluation, an academic year is normally divided into two consecutive semesters-

- *One is Odd Semester (which normally spreads from July to December), and*
- *Another one is Even Semester (which normally spreads from January to June)*

A **Semester** has a specified meaning in CBCS**.** A semester, in CBCS, normally includes 90 working days, which is equivalent to-

- *18 Weeks (If there are five working days in a week), or*
- *15 Weeks (If there are six working days in a week)*

**Programme**is a significant word used in CBCS**.** Programme in CBCS, is the learning task, the completion of which leads to acquisition or award of -

- *Degree*
- *Diploma*
- *Certificate, etc.*

A Programme in CBCS is equivalent to a Course or Subject in the traditional system of evaluation. In the traditional system of evaluation, the completion of a Course leads to award of Degree, Diploma, Certificate, etc. But, in CBCS, the completion of a Programme leads to award of Degree, Diploma, Certificate, etc.

'**Course**' and '**Credit**' are the most frequently used words in CBCS.

In CBCS, a Programme is divided into certain **Courses**. A Course in CBCS is equivalent to a 'Paper' in the traditional education system. In CBCS, all the Courses under a Programme may or mayn't carry the same weightage. For example, a Course may be 5 credits, another Course may be 4 credits, another Course may be 2 credits and so on.

A Course normally comprises different kinds of learning tasks like-

- *Lecture/tutorial*
- *Practical/field work/ laboratory work/ outreach tasks,*
- *Self-study/assignment/ oral test/ terms papers/ seminar/ viva voice/ presentations, self-learning, etc.*

**Credit** is the unit or measuring rod for measuring Coursework or learning. Credit determines the number of hours of instruction per week in a semester. One Credit Course denotes-

- *One hour teaching of Theory Courses (which includes Lecture, tutorial and the related tasks) per week, or*
- *Two hours teaching of Practical Courses (which includes Practical, field work and the related tasks) per week.*

There are many kinds of **Courses offered under Choice Based Credit System (CBCS)**. But, under CBCS, three categories of courses are basically offered. They are (Core Courses, Elective Courses, and Ability Enhancement Courses):

- ***Core Courses*** are the Courses, the knowledge of which is quite essential for a student of a particular Programme. These Courses are mandatory for all the students of a particular Programme. More than one programme may have a Common Core Course.
- ***Elective Courses*** are basically Optional Courses. Elective Courses are chosen by students as per their interest and specialization. There are broadly two types of elective Courses (*Discipline specific Elective Courses* and *Generic Elective Courses*)-
    - Discipline specific Elective Courses are the elective courses chosen from the same discipline of the Programme.
    - Generic Elective Courses are chosen from the disciplines other than the discipline of the Programme.
- ***Ability Enhancement Courses*** or skill enhancement courses are basically required for learners nowadays for their adjustment of life as

well as for their employment. Keeping in view the ability or skill development of learners, in CBCS, generally two types of Courses may be included. They are

- Ability Enhancement Compulsory Courses
- Skill Enhancement Compulsory Courses

CBCS provides an opportunity to the learner to learn the above-mentioned courses.

**Credit Based Semester System (CBSS)** is a popular terminology used in CBCS: It is a fact that a Semester System can run without a credit system, but CBCS can hardly run without a semester system. Hence, in CBCS, a semester is popularly known as Credit Based Semester System (CBSS). Under CBSS, the requirement for completion of a semester is completion of a number of credits.

The terms like **'Letter Grade'**, '**Grade Point'** and **'Credit Point'** are used as the indicators of the performance or for evaluating the performance of a learner under CBCS.

The letter used for indexing the performance of a student in Course constitutes **Letter Grade** for the Course. CBCS follows the letter grades like O, A+, A, B+, B, C, and P. A student's performance is evaluated on a ten-point scale under CBCS under these letter grades. The meaning or value of the different letters under letter grade system is like this-

| Letter Grades | Meaning or Value of Letters |
|---|---|
| O | Outstanding |
| A+ | Excellent |
| A | Very Good |
| B+ | Good |
| B | Above Average |
| C | Average |
| P | Pass |
| F | Fail |
| Ab | Absent |

**Grade Point** is the numerical weightage given to each letter grade on a ten-point scale. The Grade points of the different grades are like this-

| Letter Grades | Grade Points |
|---|---|
| O | 10 |
| A+ | 9 |
| A | 8 |
| B+ | 7 |
| B | 6 |
| C | 5 |
| P | 4 |
| F | 0 |
| Ab | 0 |

**Credit Point** is the product of grade point and number of credits of a Course-

| Course | Credit | Grade Point | Credit Point (Credit x Grade) |
|---|---|---|---|
| Course 1 | 3 | 8 | 3 × 8 = 24 |
| Course 2 | 4 | 7 | 4 × 7 = 28 |
| Course 3 | 3 | 6 | 3 ×6 = 18 |
| Course 4 | 3 | 10 | 3 × 10 = 30 |
| Course 5 | 3 | 5 | 3 × 5 = 15 |
| Course 6 | 4 | 6 | 4 × 6 = 24 |
| | 20 | | 139 |

Under CBCS, the summarized results or performances of a student are expressed through the terminologies like **Semester Grade Point Average (SGPA)** and **Cumulative Grade Point Average (CGPA).**

The performance of a student in a semester is expressed by **Semester Grade Point Average (SGPA)**. It is the ratio of total credit points secured by a learner in various courses registered in a semester and total courses credits taken during that semester. The numerical value of SGPA is expressed up to two decimal points.

The overall performance of a student in all the semesters is expressed by **Cumulative Grade Point Average (CGPA)**. It is the ratio of total Credit points secured by a learner in various courses in all the semesters and the sum of the total credits of all courses in all the semesters. The numerical value of CGPA is expressed up to two decimal points.

In CBCS, either a Transcript **or Grade Card or Certificate** is issued to report the result to the learner. It is issued to all the registered students after every semester. It displays the Course details (Code, title, number of credits, grade secured, etc.) along with SGPA of that semester and CGPA earned till that semester.

**1.6 Salient Features of CBCS :**

CBCS, like many other types of learning and evaluation systems, has a number of features and characteristics. The stakeholders of CBCS like students, teachers, educational administrators, etc. must understand its basic nature and features. The different features of CBCS is mentioned in below:

**Applicability Areas/Levels** of CBCS**:** In fact, CBCS has wide coverage and applicability. It can be applied to any area or level of programme. The applicability areas of CBCS may include-

- *Undergraduate Level*
- *Post Graduate Level*
- *Diploma & Certificate Levels, etc.*

**Covering Institutions** of CBCS: In fact, different categories of institutions can be covered under CBCS. For example-

- Central Government institutions,
- State Government institutions, and
- Other Universities /Colleges,

**Stages of Assessment** covered under CBCS: The evaluation process under CBCS is quite continuous and comprehensive in nature. It includes the different types of assessment like-

- *Sessional or continuous assessment throughout the year*
- *Mid-term assessment during mid of the session*
- *End Term assessment at the end of the session*

In this system**, Grade 'F' shall be Considered as Failed and One has to reappear the Examination for the Purpose:** That means, if somebody cannot secure minimum grade or grade point to pass the examination of a semester or the whole programme, he/she shall be considered as failed and he/she can reappear the examination as per rule.

In CBCS, basically two types of courses are offered i.e., **Credit Courses** and **Non-Credit courses**. Offering of Credit courses is mandatory in CBCS but

offering of Non-credit courses is not mandatory in CBCS. Under the CBCS, the performance of a student in a Non-credit Course is not expressed through letter grade and expressed in terms of two indicators i.e., '**Satisfactory**' or '**Non-satisfactory**'. The Non-credit courses do not contribute to SGPA/CGPA.

In our educational institution, some programmes are found which are governed by professional or technical regulatory bodies like National Council for Teacher Education (NCTE), All India Council for Technical Education (AICTE), Medical Council of India (MCI), Bar Council of India (BCI), etc. For example, the Bachelor of Education (B. Ed.) programme in India is regulated by NCTE, the Bachelor of Technology (B. Tech.) programme in India is regulated by AICTE and like this many other programmes are regulated by their respective regulatory bodies. The programmes which are regulated by regulatory bodies, in such programmes, for deciding Grade or Grade Point required to pass/qualify a Degree, the recommendations of their respective regulatory bodies are taken into consideration. CBCS gives weightage to the recommendations of the regulatory bodies like **NCTE, AICTE, MCI, etc.** in deciding the **Grade or Grade Point required to pass/ qualify a Degree.**

In CBCS, Cut-off Marks for Grade B and B+ shall not be Less than 50% and 55% respectively under the Absolute Grading System.

Further, **for deciding Cut-Off Marks for Different Grades, the Consideration of Bodies like NCTE, AICTE, MCI, etc. would be taken care of,** under this system**.**

CBCS states that **for Paper Setting as well as assessing Theoretical Components of at Least 50% of Core Courses, External Examiners should be appointed.**

**For assessing Practical, the Team of Evaluators should include 50% Examiners from Outside the University/Institutions.**

And **for assessing Project Reports, Thesis/Dissertation, etc., both Internal as well as External Examiners should be appointed.**

Under this system, **Transcript may be issued for Each Semester as well as for All Semesters.**

Computation formula of SGPA is: Ó(Ci × Gi) / ÓCi where,

**Ci is the number of credits in a particular courseand**

**Gi is the grade point scored by the student in that course**

| Course | Credits | Letter Grade | Grade Points | Credit Points (Credit x Grade) |
|---|---|---|---|---|
| **Course 1** | 3 | A | 8 | 3 × 8 =24 |
| **Course 2** | 4 | B+ | 7 | 4 × 7 =28 |
| **Course 3** | 3 | B | 6 | 3 × 6 =18 |
| **Course 4** | 3 | O | 10 | 3 × 10 = 30 |
| **Course 5** | 3 | C | 5 | 3 × 5 =15 |
| **Course 6** | 4 | B | 6 | 4 × 6 =24 |
| | 20 | | | 139 |
| SGPA (Si) = **Ó(Ci × Gi) / ÓCi** | | | | |
| **Thus, SGPA =139/20 =6.95** | | | | |

**Computation formula of CGPA** is**: Ó(Ci x Si) / Ó Ci**

Where,

Si is the SGPA in a particular semester and

Ci is the total number of credits in that semester

| Semester 1 | Semester 2 | Semester 3 | Semester 4 | Semester 5 | Semester 6 |
|---|---|---|---|---|---|
| **Credit: 20** | **Credit: 22** | **Credit: 25** | **Credit: 26** | **Credit: 26** | **Credit: 25** |
| **SGPA:6.9** | **SGPA:7.8** | **SGPA: 5.6** | **SGPA:6.0** | **SGPA:6.3** | **SGPA: 8.0** |

**CGPA = Ó(Ci x Si) / Ó Ci**

$$\text{Thus, CGPA} = \frac{20 * 6.9 + 22 * 7.8 + 25 * 5.6 + 26 * 6.0 + 26 * 6.3 + 25 * 8.0}{144}$$

**= 6.73**

### 1.7 Challenges of CBCS:

It is a true fact that CBCS is new for many of us. And, the introduction or implementation of any new scheme or system is not always so easy and faces a number of challenges. CBCS is in the process of implementation in our country,

so, in the process of implementation of it, a number of challenges or issues or problems are found. Some of such challenges are mentioned in below:

One challenge is **Infrastructure Requirement:** It is true that CBCS requires adequate infrastructure in terms of number of classrooms, number of teachers, diverse courses and their teaching and evaluation and so on. But, many institutions lack the infrastructure to run CBCS.

Another challenge is **Training of Personnel:** In reality, the effective administration and running of CBCS requires proper training of administrators, teachers and other institutional personnel in CBCS. But till now, trainers as well as trainees in the area of CBCS are few. The concept is very new for many teachers and administrators even, and many personnel find it difficult to understand.

**Designing Issues of Curriculum** is another significant challenge**:** Because, CBCS follows a comprehensive curriculum. Under CBCS, different types of Courses like Core Courses, Elective courses, Ability enhancement or skill-based courses, etc. are included. And under it, the learner is given ample freedom to choose the Courses as per his/her interest and ability. But, framing this kind of curriculum is a challenge for many educational institutions of the country.

**Implementation Issues** is a significant and vital issue of CBCS**:** The implementation of CBCS at the ground level requires many considerations like its acceptance in the institutions, administrative support, its understanding of the learner, teacher's adequate knowledge of the same and many other considerations. Unless fulfilling these basic considerations or requirements, it cannot be implemented in the true spirit. But in many cases, these requirements are not available in the institutions for running CBCS.

Like these challenges, many other challenges are realized in the process of implementation of CBCS. All the challenges act as the hindering factors or bottlenecks for its implementation. Institutional readiness must be created to remove or uproot the different bottlenecks that affect its implementation process. (Basantia, 2019)

### 1.8 Limitations of CBCS:

It is known to all of us that no scheme or system has only merits or advantages. Every system has limitations along with advantages. We can never say CBCS has only advantages. CBCS has many limitations too. Some important points of limitations or short coming of CBCS are mentioned in below:

**Institutional Freedom and Flexibility is Restricted due to CBCS:**

Because in CBCS, a common pattern of learning and evaluation is followed. Different institutions have to follow more or less same pattern of learning and evaluation. So, the institutional freedom and flexibility is restricted.

**Beauty and Creativity of Diverse Educational System is Lost under CBCS:** When the different institutions follow the same pattern of learning and evaluation, the beauty, creativity and heterogeneity of diverse educational set up will automatically be lost. The entire process of education and evaluation will be somewhat monotonous and mechanical.

As CBCS stresses on Excess Quantification of the Education System, so, **Excess Quantification of the Education System makes the System Unreal:** CBCS emphasizes excess quantification of teaching-learning and assessment procedures. Quantification is good but excess quantification is somewhat unrealistic in nature. Excess quantification of educational tasks makes the education artificial and unrealistic.

**'Cafeteria' Approach** of CBCS **Sometimes facilitates Odd Combination of Courses or creates Dilemma in Selection of Courses:** For example, sometimes students for the sake of selecting variety they select odd combinations of courses like combination of physics with economics, or mathematics with language. This kind of selection in later stages creates many problems for the learners for their learning attainment or better performance in learning.

This system **Creates Confusion among Employers since it puts Large Number of Students under a Few Letter Grades**: Actually, in marking systems, students are normally divided under 100 point scale, so, in marking system, it becomes easier for the employer to differentiate among students and choose best among them for the employment purpose. But, CBCS normally follows a ten point grading system. So in CBCS, large numbers of students are put under a few letter grades. Accordingly, it creates confusion among the employers to differentiate among students and choose best among them for employment since it puts large numbers of students under a few letter grades.

Though some sorts of limitations are there in CBCS, it has numerous advantages. So, it must be adopted in higher education institutions of the country. The adoption of CBCS in higher education institutions is also a policy directive of UGC. As institutional readiness and preparedness is required for introducing and implementing it, so, in the process of introducing and implementing the same, the institutional readiness and preparedness along with institutional feasibility must be ensured.

Though the CBCS is at a base line or infancy stage especially in Indian education context, it is forecasted and predicted that it will play a leading role in future days' learning and evaluation process of education system in an unparalleled manner. This system is in the process of creating a strong rationale and background in higher education of India. (Basantia, 2019)

### 1.9 Proposed guidelines for Academic Bank of Credit and Multiple Entry and Exit in Academic Programmes offered in Higher Education Institutions by UGC:

National Education Policy (NEP) 2020 seeks to reform the Higher Education system by providing, among other things, flexibility to students in terms of choice of subjects to study and academic pathways. A creative combination of disciplines for study with multiple entry and exit points is one very important recommendation of NEP, 2020. The NEP 2020 envisages strengthening the Choice-Based Credit System (CBCS) to instil innovation and flexibility. It mentions that HEIs shall move to a criterion-based grading system that assesses student achievement based on the learning goals for each programme, making the system fairer and outcomes more comparable. It also says that HEIs should move away from high-stakes tests in favor of more continuous and thorough evaluation. (NEP, 2020).

The multiple entry and exit points in the academic programmes offered at Higher Education Institutions (HEIs) would remove rigid boundaries and create new possibilities for students to choose and learn the subject(s) of their choice. In addition, it will pave the way for seamless student mobility, between or within degree-granting HEIs through a formal system of credit recognition, credit accumulation, credit transfers, and credit redemption.

The National Education Policy (NEP, 2020) says that the Academic Bank of Credit and Multiple Entry and Exit in Academic Programs are two of the most important changes that higher education institutions should make. Academic Bank of Credit (ABC) is a digital bank for students which promotes academic mobility through a formal system of credit accumulation, credit transfer and credit redemption. NEP (2020) observed that imaginative and flexible curricular structures will enable creative combinations of disciplines for study and would offer multiple entry and exit points, thus, removing currently prevalent rigid boundaries and creating new possibilities for life-long learning. It also observed that towards attaining such a holistic and multidisciplinary education, the flexible and innovative curricula of all HEIs shall include credit-based courses. University Grants Commission (UGC, 2021) prepared Guidelines for Multiple Entry and Exit in

Academic Programmes in Higher Education Institutions. These guidelines suggested that the undergraduate degree should be of either a three or four-year duration, with multiple entry and exit options within this period, with appropriate certifications. UGC (2021) prepared Guidelines for Multiple Entry and Exit in Academic Programmes offered in Higher Education Institutions also observed that the multiple entry and exit options for students are facilitated at the undergraduate and Master's levels. It would facilitate credit accumulation through the facility created by the ABC scheme in the "Academic Bank Account" opened for students across the country to transfer and consolidate the credits earned by them by undergoing courses in any eligible HEIs. The ABC allows for credit redemption through commuting the accrued credits in the Academic Bank Account maintained in the ABC to fulfill the credits requirements for the award of certificate/diploma/degree by the authorized HEIs. Upon collecting a certificate, diploma or degree, all the credits earned till then, in respect of that certificate, diploma or degree, shall stand debited and deleted from the account concerned. HEIs offering programmes with the multiple entry and exit system need to register in the ABC to enable acceptance of multidisciplinary courses, credit transfer, and credit acceptance. (UGC, 2021)

The undergraduate degree will be of 4-year duration, with multiple exit options within this period, with appropriate certifications, e.g.: After completing 1 year in a discipline or field including vocational and professional areas the students will get a **certificate.** After the completion of 2 years the students will get a diploma. After the completion of 3 years the students will get a Bachelor's **degree.** After the completion of 4 years the students will get a multidisciplinary **Bachelor's programme** shall be the preferred option. The 4-year programme may also lead to a degree **'with Research'** if the student completes a rigorous research project in their major area(s) of study as specified by the HEI. (NEP, 2020)

Similarly, HEIs will have the flexibility to offer different designs of Master's programmes: (a) there may be a 2-year programme with the second year devoted entirely to research for those who have completed the 3-year Bachelor's programme; (b) for students completing a 4-year Bachelor's programme with Research, there could be a 1-year Master's programme; and (c) there may be an integrated 5-year Bachelor's/Master's programme. A Master's degree or a four-year Bachelor's degree with research is required to pursue a Ph.D. The M.Phil. programme shall be discontinued. (NEP, 2020)

### 1.9.1 Advantages of ABC:

- Opportunity of multiple entry and exit by which enhancing the GER at 50% in the next decade
- Promotes flexibility of the learners
- Learn at their own Pace
- Mobility of students across general and vocational courses
- Horizontal mobility of students from one institution to other institutions
- Vertical mobility / inter-disciplinary mobility of students from one level of programme to another level of programme –also the major advantages of **credit transfer, accumulation and credit redemption.**

## 1.10 Review of Related Studies:

In India, the Choice-Based Credit System (CBCS) has been implemented as a significant reform in higher education. The old educational system has many drawbacks, including a non-uniform course curriculum, low flexibility in subject combinations, poor student mobility between institutions, a time-bound approach, a non-uniform assessment system, and a teacher-centric mindset. The Choice-Based Credit System was implemented in accordance with international best practices to give students freedom and flexibility in selecting their courses, a uniform course curriculum and uniform evaluation system, and the opportunity to complete their education at various institutions and at various times. The dissertation, practical classes, and tutorials have received special attention. There is a change from the traditional teacher-centred approach to education to one that is student-centred. (Chakraborty &Mahanayak, 2021)

Interdisciplinary approaches are absent, and value-based courses are neglected. The answer to this issue is to provide students with the option to specialise in multidisciplinary fields while also taking several disciplines. Therefore, the University Grants Commission (UGC) has started several initiatives, such as course-curriculum innovation and enhancement, the introduction of new types of examinations, and evaluation and assessment systems. The choice-based credit system (CBCS) gives the educational system some flexibility so that students can select interdisciplinary and skill-based courses based on their interests and goals. (Biswas, 2018).

### 1.10.1 *Implementation of CBCS:*

The University Grants Commission (UGC) has initiated several steps to include innovation and improvement in course curricula, the introduction of a paradigm shift in learning and teaching pedagogy, examinations and the education system. With a view to allowing flexibility in the education system so that students, depending upon their interests and aims, can choose interdisciplinary, intra-disciplinary and skill-based courses, choice-based credit system (CBCS) is adopted. The choice-based credit system not only offers opportunities and avenues to learn core subjects but also explores additional avenues of learning beyond the core subjects for holistic development. The UGC has prepared mainline and specialised model syllabi for undergraduate programmes and made them available to the universities to facilitate the implementation of CBCS. (Mishra, 2016; Kapur, 2017)

**1.10.2** ***Quality***: CBCS would be an attempt by UGC to improve academic quality in all aspects. Different universities in India follow different methods in examination and evaluation systems; therefore, implementing CBCS will promote a universal grading system in India. (Phukan, 2015). Quality is the major concern of the present higher education which could be judged and assessed only by the universally acclaimed evaluation system. This could be possible through the CBCS. CBCS is essential for Higher Education as this system increases the sincerity among the students as they prefer to learn the subjects of their choice. (Biswas, 2018)

Ensuring uniformity in the Education System, especially at the Under-Graduate level, the Choice-Based Credit System has been confirmed as mandatory. However, the nature of the Indian education system is much more diverse and encompasses inherent diversity problems in implementing the uniform evaluation system. Major inventions and innovations directly affect the quality of higher education. So, quality is the major concern of the present higher education which could be judged and assessed only by the universally acclaimed evaluation system. This could be possible through the CBCS. (Hasan & Parvez, 2015)

### 1.10.3 *Perception of students towards CBCS system:*

CBCS is essential for higher education as with the introduction of this system; students became more inclined to self-study and as per their own choice. Sincerity among the teachers was also increased to a great extent. Both teachers and students agreed that CBCS was student-centric. (Sumitha, Krishnamurthy & Winfred, 2016)

Science background students and Boys students had higher positive attitudes towards CBCS than Arts and Girls students. (Roy, Khanam and Devi, 2013). Science students have a more favourable attitude towards CBCS than the Arts

students of GDC Women, Anantnag. (Bhat, 2017). The workload was not a problem among the students. Core subject teaching was also not hampered by opting for subjects from other departments. The majority of the students were in favour that no dilemma was created during selecting optional subjects as they decided well in advance which subject had to be taken among subjects offered by the University. Students highly agreed that they were able to develop their academic career according to their interests. A good number of students felt that CBCS had enabled academic justice when looking through the glass of evaluation of our Educational System etc. (Chahal and Manan, 2017). There was a significant difference between the attitude of post-graduate students of science and arts streams. However, no significant difference existed among students according to gender, i.e. boys and girls, towards the Choice Based Credit System. (Hossain, 2018). There was no significant difference between the attitude of boys and girls students towards workload in CBCS as attitude towards the choice-based credit system. There existed a significant difference between the attitude of boys and girls towards the dilemma for subject choice in CBCS as attitude towards choice based credit system. Boys said it had not increased the dilemma, but girls did not agree with that. There was no significant difference between the attitude of male and female students towards effect in core subjects in CBCS as attitude towards choice based credit system. A significant difference existed between the attitude of male and female students towards increased academic achievement in CBCS and equality in evaluation in CBCS. Girls were in favour of CBCS in comparison to boys in significant aspects. No difference was found between the attitude of boys and girls students towards satisfaction of the grade system in CBCS as attitude towards choice based credit system. (Sarkar, 2019). There have been no significant differences in the students with regard to their gender, locality and streams. However, there existed significant differences between the students with regard to their courses like honours and program. (Mal &Mahato, 2021)

### 1.10.4 *Issues and Challenges:*

An evaluative study on higher education revealed that CBCS had increased the workload of teachers. In CBCS, continuous and internal evaluation was based mainly on paper-pencil tests and practicum. In the syllabus, so many optional papers were offered, but only a few were running in practice. Limited faculty and scarcity of resources might be the main reasons for this. (Prasuhn, 2014) The system lacks time, and the syllabus is vast to complete within the semesters. In spite of this, the importance of internal assignments, seminars and projects cannot be ignored. (Mathrubhumi, 2012)

According to Kelkar and Ravishankar (2014) a choice-based credit system has increased the workload of the teachers. Most universities or institutes have adopted this new evaluation system in their PG-level courses, but it was not implemented in a true sense. The students as well as the teachers' community had different perceptions and attitudes regarding this new form of curriculum as well as examination system (Deuri, 2015; Chahal and Manan, 2017 & Bhat, 2017)

A study on implementation of CBCS in Delhi University pointed out several challenges. There were six undergraduate programmes, and students were confused by the rapid changes. The examination department faced difficulty every year as there was a new pattern each year and the department was yet to know the list of colleges which had opted for different papers. With the changes in the teaching pattern and subjects, students and faculty were equally confused due to a lack of clarity (Solomon, 2015). The Choice-Based Credit System (CBCS) proposed by the University Grants Commission created several issues in the universities and colleges of Andhra Pradesh. Semester system was to be followed in CBCS system, but only autonomous colleges were following the semester pattern. Affiliated colleges were not following the semester pattern; exams would have to be conducted if a semester pattern was introduced. At that time, UGC had given a model curriculum for UG (Honours) and UG (pass) courses. University in Andhra Pradesh did not offer an honoursprogramme. No credit was assigned to the second language, and it was not compulsory to learn English as it came under Ability Enhancement Compulsory Course with an option for Environmental Sciences or the Modern Indian language. (Verma, 2015).

Many HEIs have not yet been able to successfully implement the CBCS in its full form due to various reasons like lack of infrastructure, shortage in number of teachers, long distance of the departments and no uniformity in open electives, sudden increase in the workload of academic departments and no proper training on CBCS on the part of different stakeholders. Though some criticisms are genuine, some are unjustified. (Lalrinzuali, 2017)

### 1.10.5 Reviews for international Credit System:

Gerhard (1955) had explored that the worldwide development of credit systems can be traced out from the different educational systems across the world like European credit and transfer system, Australian qualification framework, American credit accumulation and transfer system etc. In the American education system the credit system was developed in two phases: one was introduction of the elective system and another was standardization of curricula. The first major break with this system was president Charles Eliot's implementation of elective system at

Harvard university in 1869 this introduction of variety of courses to gave the curriculum greater break and flexibility and provided opportunity for individual choice but such a change also marked the need for a quantification of a educational process so that student progress along various path toward a degree could be assessed. The first unit of measurement were the courses themselves defined in terms of hour of classroom contact by 1877.

The European Credit Transfer and accumulation System (ECTS) was introduced in 1989 within the framework of Erasmus. Now this is part of the Socrates programme. European countries have tested and then adopted & implemented the ECTS. In this way this is the unique credit system. Initially, ECTS was set up for credit transfer. The ECTS facilitated the recognition of periods of study internationally. This provided the opportunity for student mobility in Europe on large scale for better quality education. Now, ECTS has been implemented in all level institutions along with the facility of credit transfer and credit accumulation in consonance with the Bologna Declaration, June,1999.

The Australian Qualifications Framework (AQF) is the **national policy** for regulated qualifications in Australian education and training. It incorporates the qualifications from each education and training sector into a single comprehensive national qualifications framework. The AQF defines the essential characteristics, including the required learning outcomes, of the different types of qualifications issued across the senior secondary education, vocational education and training (VET) and higher education systems in Australia. The AQF comprises 10 levels, ranging from certificates to doctoral degrees. Some qualifications are offered in more than one sector. Vocational education and training is offered at AQF Levels 1 to 8 and higher education ranges from AQF Levels 5 to 10. The main policy document is the AQF Second Edition January 2013, which is complemented by a number of specific policies, explanatory guides and addendums.

## 1.12 Conclusion

Teaching-learning is a process that includes many variables. These variables interact as learners work toward their goals and incorporate new knowledge, behaviours, and skills that add to their range of learning experiences. Learning is more important than teaching. Teaching has no value if it does not result in learning on the part of students. It helps the teacher to determine, evaluate and refine their instructional techniques and in setting-up, refining and clarifying the objectives. Theorists like John Dewey, Jean Piaget and Lev Vygotsky, whose collective work focused on how students learn, have informed the move to student-centered learning. John Dewey was an advocate for progressive education, and he believed that

learning is a social and experiential process. He believed that a classroom environment in which students could learn to think critically and solve real world problems was the best way to prepare learners for the future. Carl Rogers' ideas about the formation of the individual also contributed to student-centered learning. Rogers wrote that "the only learning which significantly influences behavior and education is self-discovered". Maria Montessori was also a forerunner of student-centered learning, where preschool children learn through independent self-directed interaction with previously presented activities Self-determination theory focuses on the degree to which an individual's behavior is self-motivated and 'self-determined'. When students are given the opportunity to gauge their learning, learning becomes an incentive.

***Student-centered learning*** means inverting the traditional teacher-centered understanding of the learning process and putting students at the centre of the learning process. In the teacher-centered classroom, teachers are the primary source for knowledge. On the other hand, in student-centered classrooms, active learning is strongly encouraged. Armstrong (2012) claimed that "traditional education ignores or suppresses learner responsibility". A further distinction from a teacher-centered classroom to that of a ***student centered*** classroom is when the teacher acts as a facilitator, as opposed to instructor. In essence, the teacher's goal in the learning process is to guide students into making new interpretations of the learning material, thereby 'experiencing' content, reaffirming Rogers' notion that "significant learning is acquired through doing". Through peer-to-peer interaction, collaborative thinking can lead to an abundance of knowledge. In placing a teacher closer to a peer level, knowledge and learning is enhanced, benefitting the student and classroom overall. According to Lev Vygotsky's theory of the zone of proximal development (ZPD), students typically learn vicariously through one another. Scaffolding is important when fostering independent thinking skills. Vygotsky proclaims, "Learning which is oriented toward developmental levels that have already been reached is ineffective from the viewpoint of the child's overall development. It does not aim for a new stage of the developmental process but rather lags behind this process."

Higher education has been expanding rapidly worldwide. Global enrolment in higher education more than doubled in less than two decades, reaching 221 million students in 2017. This proliferation has led to a highly diverse sector, reflected in not only a wider variety of higher education institutions, programmes of study, and delivery modes, but also in a greater diversity of learners entering the system. However, higher education has also become increasingly fragmented, which is

reflected in the multi-layered governance, diversified financing, and growing autonomy of higher education institutions. Within this context, offering well-articulated and ***flexible learning pathways*** able to accommodate a variety of learning needs is a challenge in many higher education systems.

The need to adapt education systems to better support flexible learning pathways, with a view to strengthening equity and encouraging lifelong learning, is well recognized in the ***international Education 2030 Agenda*** and in ***Sustainable Development Goal 4***. The Agenda encourages countries to develop well integrated education systems that provide learning pathways for all students, in the form of entry and reentry at all ages and all educational levels, stronger linkages between formal and non-formal structures, and recognition, validation, and accreditation of knowledge and skills acquired through non-formal and informal education. Through these measures, higher education systems can become more equitable and inclusive, more effective in fulfilling their missions and objectives, more efficient in their operations and use of resources, and better equipped to serve the needs of their communities and of society at large.

At the same time, the implementation of flexible learning pathways is a complicated process, influenced by a number of factors at the national, institutional, and even individual level. An adequate mix of policies and steering instruments is needed, in order to create an enabling environment for flexible learning pathways; and well-designed implementation mechanisms are required, to ensure that these pathways are reflected in the practices of higher education institutions. Some countries have succeeded in adopting policy frameworks, instruments, and targeted measures that support flexible learning pathways in their higher education systems. (Martin &Godonoga, 2020)

The National Report "Turning Challenges into Opportunities: Flexible Learning Pathways in Indian Higher Education" for the IIEP-UNESCO Research 'SDG4: Planning for Flexible Learning Pathways in Higher Education examines the existing flexible learning pathways (FLPs) in Indian higher education and makes recommendations for policy-makers at the national and institutional levels. Two institutions–one an elite technical institution (IIT Delhi) and the other, a premier state university (Bharathiar University) — were selected as case studies. In India, the available flexible learning pathways are Open and Distance Learning (ODL), the Choice-Based Credit System (CBCS), Study Webs of Active Learning for Young Aspiring Minds (SWAYAM), and the National Programme on Technology Enhanced Learning (NPTEL). Moreover, flexible pathways, such as branch

transfers across engineering disciplines and part time master's and PhD programmes, are another element of flexibility.

The analysis confirmed the strong policy interest in selected areas of flexibility, but also the absence of a unifying policy at national level for flexible learning pathways. Supportive instruments, such as a single NQF for education, are still lacking, as are a national framework for credit transfer and a national policy for student academic counselling and career advice.

The absence of institutional policy for flexibility was identified by institutional actors as an obstacle to its implementation. There were also issues highlighted linked to the availability of resources (both financial and staff). Resistance by academic staff to alternative entry modes and an enhanced use of technology-based learning were mentioned. Students themselves were found to be not always interested in curriculum flexibility or transfer opportunities, as they felt insufficiently informed of the advantages these offer. Representatives from the labour market argued for a stronger link between higher education and skills development.

The study concludes with a series of recommendations on how to drive flexible learning pathways in Indian higher education. The recommendations are based on findings from the primary interview data and secondary literature review. At national level, the authors recommend: (1) understanding and prioritising FLPs in national policies; (2) balancing regulation and autonomy; (3) providing better financing and educational technology and infrastructure to support FLPs; (4) developing distance education; (5) utilising QA and NQF instruments for coordinated implementation of FLPs; and (6) monitoring and evaluating the FLP policies. At the institutional level, the authors recommend: (1) improving articulation between IITs and higher technical institutes; (2) training teachers for the use of educational technology; (3) improving the infrastructure and creating an enabling culture for SWAYAM; (4) enhancing institutional coordination of CBCS; (5) systematising academic counselling and career advice; and (6) providing better academic support for disadvantaged students. (Malik &Annalakshmi, 2022)

It is a learner centric approach that emphasizes giving the students choices that are also linked with the flexible learning pathway. There could be some literature related to that if the students are provided flexibility, it is not a very rigid structure in terms of learning. So, they will have multiple choices available before that student as per the changing times of 21st century skills; the students can prepare themselves as per the requirements. So different kinds of learning can happen. It is not monotonous imparting of information; rather, it can also be linked to a creative

learning environment. For example, an engineering student can opt for dance/ music/yoga/sanskrit courses.

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# STEM Education in view of NEP' 2020: The Education for the Future

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***Abstract***

*India has the largest students' population in the world and quality education is always on priority in the country. From the University Education Commission 1948 to National education policy 2020, governments have played a vital role to fulfill the requirements of education system and strengthened learners with the contemporary knowledge and skills. Now, this is the time of innovation and technological advancement and therefore the requirement of STEM skilled workforce is significant worldwide. So, to cope up with the changing arena of development and progress all over the world we need to improve and equip our education system with STEM education to fight the tough competition on the present global pitch. In this article, STEM education in India and NEP 2020 visions for its enhancement will be discussed to understand the importance of STEM education, its present condition, need and scope for further development and vision of policy makers regarding its future.*

***Key Words*****:** *STEM Education, NEP'2020*

## Introduction:

We 'the humans' have walked a long distance from our empire history to the modern world of democratic states. All the things have changed drastically and everything has acquired a new form according to the need of the time. Education has always been one of the fundamental needs of mankind, it not just contributes to the society with intellectuals but also helps people to develop skills or learn to achieve an aspired livelihood. The requirements for employment always change with the time and needs of the society. The recent time is the time of technological advancement, so today the education of science and technology is one of the major choices of learners around the globe. Also in India, Science and Technology is the most preferred choice of students. According to **"All India Survey on Higher Education 2019-20 (AISHE)"**, the total number of students enrolled in

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higher education over the country was approximately **3.85 crores**, and science and technology subjects were among their first choices.

Not just in education, STEM is highly "in-demand" in the employment and job sectors also all over the world. As per the data released by *U.S. Bureau of Labor Statistics*, "there is 10.5% increase in STEM occupations in U.S. alone and the median annual wages of STEM employees is 137.5% more than that of non-STEM employees. (The data does not cover the self-employed, owners and partners in unincorporated firms, or household workers)"

From all these statistics, we can see that the demand of science, engineering and technology education is exponentially increasing among students as well as in the employment sector. In this row, our government has also taken some crucial steps towards making our educational system more upgraded and capable of fulfilling the needs of the time. Recently, "National Education Policy 2020" is the most epoch-making work of government of India in the field of education. This policy proposes some critical recommendations for improving the educational system. Along with some significant features like Multilingualism, equitable and inclusive education, multiple exit options in courses, academic credit-based education system, this policy also put a great emphasis on science, mathematics and technical education in order to prepare students for technologically advanced world.

From all the above arguments we can say that, the subjects like science, technology, engineering and mathematics are on the priorities in education sector and all the stakeholders need to work for its development and facilitation. Policy makers needs to think for developing a cohesive education of science and technology subjects with their real-life applications instead of their dispersed theoretical teaching and learning. Considering the current need and requirements, "STEM Education" is a useful option to acquire and the national educational policy 2020 has given many important recommendations in this regard.

**STEM Education**

The term "STEM" stands for the group of disciplines namely, Science, Technology, Engineering and Mathematics and STEM education refers to the course of study of these four disciplines together in an interdisciplinary manner.

According to *Florida Department of Education*, "STEM education is the intentional integration of science, technology, engineering, and mathematics, and their associated practices to create a student-centered learning environment in which students investigate and engineer solutions to problems, and construct evidence-based explanations of real-world phenomena with a focus on a student's

social, emotional, physical, and academic needs through shared contributions of schools, families, and community partners."

This term "STEM" was first introduced in early 1990s by many educators including "Charles E. Vela". The "National Science Foundation (NCF)" also worked on a project named "STEMTEC" (Science, Technology, Engineering and Math Teacher Education Collaborative) at "University of Massachusetts Amherst". In 2001, "Rita Colwell and other Science administrators" at NCF accepted this term "STEM" on the recommendations of "Dr. Peter Faletra", (Director of workforce department for teachers and scientists at the office of science).

STEM education is an approach of learning four disciplines, Science, Technology, Engineering and Mathematics, in an interdisciplinary way to provide a cohesive learning experience and develop desired skills and capabilities among students. STEM curriculum involves not only theoretical learning of these disciplines but also introduces itsreal-life applications, through which the learning could bescaled to skills.

**Need of STEM Education**

Today, each and every sector, more or less, somehow, relies on STEM, be it, business, medicine, education, civil services, defence, agriculture, IT, innovation or R&D, no sector can grow without the effective application of STEM, and 'STEM Education' works as the foundational stage for these fields. Thus, STEM education, undoubtedly, is an integral part of every sector and therefore it is becoming even more desirable among the students.

Worldwide increasing market demand of science, technology graduates is also a big reason of employing STEM education at school and college levels. According to National Science Foundation (NCF)'s prediction, "80% of the jobs created in the next decade will require some form of mathematics and science skills." This data itself is describing the need and importance of STEM in present education system.

**STEM Education in India**

In India education of the subjects like Science, Mathematics, Engineering and Technology has always been on the priority of students and their guardians as well. These disciplines are considered among the highly reputed and admired subjects in Indian society. According to the data released by **All India Survey on Higher Education (AISHE)**, Total 3.85 crores (approx.) students enrolled in higher education, out of which 1.08 crores (approx.) students are enrolled in the courses related to the disciplines of Science and Technology, including 47.07 lakhs students in B.Sc., 21.48 lakhs students in B.Tech., 14.90 lakh students in B.E.,

6.40 lakhs students in B.Sc. Honors, 1.77 lakh students in M.E. & M.Tech. and 1.0 lakhs (approx.) students are enrolled in research programs related to Science and Technology disciplines.

According to an article published in Times of India newspaper, 85% boys and 57% girls are willing to pursue their career in STEM fields.

Also, the **Economics Times** says, "Job postings related to STEM (Science, Technology, Engineering, Mathematics) in India have increased by 44% in the past from November 2016 to November 2019, according to data from job site Indeed."

Further this article says, "Delhi is leading the way for STEM jobs with 31% of overall postings among metros, followed by Mumbai (21%), Bengaluru (14%), Pune (12%), Hyderabad (12%) & Chennai (10%). The West has beaten the rest of the country to the top spot, with 34% of all postings from this region. The North-South of India come in at a close second with 31% of postings."

With the data mentioned above, it is clear that STEM is not just in demand of the learners but it is also in demand of the recruiters. As we know, employment conditions directly influence the economy of a nation, education has its crucial responsibility to prepare youth for their future endeavors and challenges in order to shape the future of the nation. The better employment people will get, the better will be the economic growth of the country.

Therefore, for a developing country like India, it is unavoidable to work in the field of STEM education development. Mr. Ravi Parag says in his article "Why STEM Education is necessary in the Indian education sector" in "The Hindu" newspaper, "STEM education is the need of hour to help students make the leap from users of technology to innovators."

And this is exactly what our national education policy 2020 is focusing on. Today, Quality Research and Development and Innovations in all the sectors are among the critical priorities of Indian Government and policy makers and they are working in this field robustly.

**STEM Education- the viewpoint of NEP 2020**

The "National Education Policy 2020" was approved by "Union cabinet of India" on 29th June 2020. After a long gap of 34 years government turned their focus to strengthen the education system in the country. This policy has come into effect by replacing the previous national education policy of 1986. The new education policy has come with many significant recommendations, some of them are overhauling and some are creating a new gateway to future. The main attention

of this policy is to shift the focus of our education system from rote memorization-based learning to skill developing critical thinking based holistic education.

In the words of NEP 2020, "*The aim of education will not only be cognitive development, but also building character and creating holistic and well-rounded individuals equipped with the key 21st century skills*."

And when the policy is talking about the "key 21st century skills", development of Science and Technology at all the levels is among the list of high primacies of government and policy makers. They recognize rapidly changing arena of employment and the changing skill requirements not only in the country but around the globe. As the policy states, "*The world is undergoing rapid changes in the knowledge landscape. With various dramatic scientific and technological advances, such as the rise of big data, machine learning, and artificial intelligence, many unskilled jobs worldwide may be taken over by machines, while the need for a skilled workforce, particularly involving mathematics, computer science, and data science, in conjunction with multidisciplinary abilities across the sciences, social sciences, and humanities, will be increasingly in greater demand*."

The policy has given some very imperative recommendations regarding the development of education of Science and Technology disciplines. Here we are discussing some of those recommendations in the following points:

- The new education policy has erased all the strict boundaries between the disciplines or streams of arts/commerce/science, which has opened a new world of opportunities of learning for students. Now a student who has interest in learning physics and mathematics in addition to computers or other technology or engineering related subjects, then they are free to enroll for the subjects of their choice.
- The policy advocates for multilingual education to come over the language barriers. Also, for STEM disciplines the policy endorses to develop study material bilingually (mother tongue+ English) so that the students would be able to understand the concepts in their mother tongue and also get to know the discipline's terminology as per the global acceptance. According to NEP 2020, "*All efforts will be made in preparing high-quality bilingual textbooks and teaching-learning materials for science and mathematics, so that students are enabled to think and speak about the two subjects both in their home language/mother tongue and in English*."

- Practical Knowledge and experiential learning are integral part of STEM education and NEP 2020 has recognized this need and supported the idea of introducing hands-on learning at early stages. The policy recommended, "*Every student will take a fun course, during Grades 6-8, that gives a survey and hands-on experience of a sampling of important vocational crafts, such as electric work, metal work, etc., as decided by States and local communities and as mapped by local skilling needs*."
- The policy has also provisioned internship programs under local vocational experts such as local professionals working in related field. And this would help STEM students to go under practical experience and to know the real-life challenges of working in their field of interest. In this regard the NEP 2020 states, "*Vocational skills in addition to science, humanities and mathematics will be incorporated throughout the school curriculum with a consideration for what is interesting and safe at each age*."
- As we know, our heritage has been extremely rich in the knowledge of various scientific and engineering disciplines such as science, mathematics, astronomy, metallurgy, engineering, architecture, food science, medicine, conservation and many other fields. The policy has committed to introduce elective engaging courses on secondary level, based on "Indian Knowledge System" in which "knowledge from ancient India, its contribution to modern India, its successes and challenges and a clear sense of India's future aspirations with regard to education, health and environment etc. will be incorporated in an accurate and scientific manner". This would play a vital role in introducing students with the wonders of science, technology and engineering from ancient India and provide them an opportunity of learning from the rich heritage of Indian Knowledge.
- Recognizing the need and global demands of skilled intellects associated to Artificial Intelligence AI, computation, mathematics and mathematical thinking, machine learning, data science etc., the policy has advised to take "concerted curricular and pedagogical initiatives" to introduces these contemporary disciplines in the education system at various levels according to the needs and capabilities of respective academic stages. According to NEP 2020, "*It is recognized that mathematics and mathematical thinking will be very important for India's future and India's leadership role in the numerous upcoming fields and*

*professions that will involve artificial intelligence, machine learning, and data science, etc. Thus, mathematics and computational thinking will be given increased emphasis throughout the school years, starting with the foundational stage, through a variety of innovative methods, including the regular use of puzzles and games that make mathematical thinking more enjoyable and engaging. Activities involving coding will be introduced in Middle Stage*."

- The policy greatly emphasizes on developing "scientific temper and evidence-based thinking; creativity and innovativeness, digital literacy, coding, and computational thinking skills etc." in the students to cope with the changing needs of contemporary world.

**STEM Education in India- Challenges and Future**

In addition to the previous educational policies the national education policy 2020 has also worked significantly for the development of STEM Education in India but the path of progress is still not free from obstacles. There are still many significant challenges in implementing and developing STEM education in the country such as financial support, appropriate infrastructure, suitable curriculum, proper guidance and support, capable educators/ faculty and much more.

Lack of appropriate infrastructure and financial support are the major challenges in the implementation and development of STEM education in India. According to an article published in "The Hindu" on March 11, 2020; "Only 56% of schools have electricity, with the lowest rates in Manipur and Madhya Pradesh. Less than 57% of schools have playgrounds according to the UDISE 2017-18 survey. Almost three out of four government schools in Odisha did not have a playground as of 2018. 135 libraries and 74 art/craft/culture rooms had been sanctioned. But none had been built with just three months left in the financial year. the School Education department proposed to allocate rupees 82570 crores. But only rupees 59845 crores were allocated." Clearly, with all these irregularities its difficult to fulfill the requirements of implementing and developing STEM education in the country effectively.

STEM education also demands adequate curriculum as well as highly qualified and skilled teachers but the present condition of available teaching workforce and curriculum in India is not as per the objectives. There is a huge shortage of teachers in the education system and in the view of implementing STEM the curriculum also needs to be reconstructed. According to UNESCO's "State of Education Report 2021", "India needs 11.16 lakh additional teachers to meet the current shortfall."

The challenges don't end here, convincing students and their parents/guardians for adopting STEM education is also not an apple pie. Many of them including some educators, has a misconception that STEM leads to distractions and students would not be able to complete the syllabus on time. In addition to this, many other difficulties are there to overcome to implement STEM in India effectively.

Despite all these challenges, the STEM education is on rise in India and government is also taking some serious steps towards its further development.

A number of recent initiatives taken by the government and policy makers for the enhancement of STEM education in the country are commendable, some of such initiatives are as follows:

- AICTE conducted a national survey and discovered that approx. 42% students are in favor to pursue engineering in regional languages, therefore, many colleges in different states of the nation are going to introduce engineering studies also in regional languages such as Hindi, Marathi, Bangla, Tamil and Telugu.
- National Digital Education Architecture (NDEAR) under the aegis of Ministry of Education and Ministry of Electronics and IT (MeitY) is a "globally pioneering effort in education- a unifying national digital infrastructure to energize and catalyze the education".
- National Education Technology Forum (NETF) will ensure to improve access to technology at the grass root level of education. For improving the technology education at school level, schools would be advised to hire skilled professional qualified candidate to teach incipient technological skills to the students.
- NISHTHA 2.0 is world's largest teacher's training programme which aims to train the teachers according to their need and discipline with its 68 modules (12 generic+56 subject specific).
- National Programme on Technology Enhanced Learning, launched in 2003, is an initiative of MHRD, seven IITs and Indian Institute of Science Bangalore to provide online education and video courses in engineering, science and management concerned disciplines.
- National Educational Alliance for Technology (NEAT) is a Public Private Partnership Model which aims "to bring the best technological products in the educational pedagogy on a single platform for the convenience of the learners."
- Some other significant initiatives include National Knowledge Network (NKN), PRAGYATA, SWAYAM, DIKSHA, NEP 2020 and many more.

## Conclusion

The education system in India is going through a reformational phase with NEP 2020 and many other policies and initiatives by the government in education sector as discussed above. As of now, STEM education is in its infancy stage in India but with the forums like Skill India, NPTEL, SWYAM, NETF, NEAT etc. and with a huge support of NEP 2020 the future of STEM in India is seemingly bright and we hope for the best.

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# The use of the Bilingual method in English Language Teaching

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## Introduction

With globalisation, bilingualism/multilingualism has become a relevant phenomenon in the world today. Bilingualism/ Multilingualism enhances cognitive skills, creates a variety of options for further education, broadens career opportunities, and is also more adaptable. It broadens the perspective of reading and comprehending literature of different languages and understanding the huge repository of knowledge available in different languages. The pertinent principles of the bilingual method are the controlled use of the student's mother tongue, the introduction of reading and writing early in the course of language learning and the integration of writing and reading skills. Bilingualism/ Multilingualism in India is a product of its history and a reflection of its diverse cultures. Schools play a vital role in maintaining multilingualism and in changing its nature. Planning for the development of Indian languages starts at the school level to ensure, in theory, that it allows the multilingual base to continue. For the students, the motivation to learn several languages arises from advantages that might possibly act as incentives for learning more and more languages. These advantages range from better jobs to enjoying diverse cinema, reading magazines, and traveling. Furthermore, NEP 2020 states that wherever possible, the medium of instruction until at least Grade 5, but preferably till Grade 8 and beyond, will be the home language/mother tongue/local language/regional language.

## The Bilingual method

Prof. C.J. Dodson Wales (1967) developed the bilingual method of foreign language teaching, as a counterpart of the audio-visual method and he set out to make improvements to the audio-visual method. In this method, there are two revolutionary principles based on the results of scientifically controlled experiments

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in primary and secondary schools. This method allows the teacher and pupils to use two languages; one is the target language to be learned and the other mother tongue which is used to achieve the target language English. The teacher frequently reads and transforms the text into the mother tongue of the pupil. In the bilingual method, there are three main stages of any language lesson, or the traditional three P's: presentation practice production: presentation.

The Principles of the Bilingual Method are:

- "Pupils can understand the words and sentences in foreign languages easier by the use of their mother tongue.
- In the classroom the teacher doesn't need to create any artificial situations while teaching or explaining the meaning of words and sentences of the target language.
- Bilingual method is the combination of the Direct method and the Grammar tra (Durga, 2018)

**Bilingualism/ Multilingualism and the power of language NEP 2020**

It is imperative that young children learn and grasp nontrivial concepts more quickly in their home language/mother tongue. Home language is usually the same language as the mother tongue or that which is spoken by local communities. However, at times in multi-lingual families, there can be a home language spoken by other family members which may sometimes be different from the mother tongue or local language. Wherever possible, the medium of instruction until at least Grade 5, but preferably till Grade 8 and beyond, will be the home language/mother tongue/ local language/regional language. As research clearly shows that children pick up languages extremely quickly between the ages of 2 and 8 and that multilingualism has great cognitive benefits for young students, children will be exposed to different languages early on (but with a particular emphasis on the mother tongue), starting from the foundational stage onwards. All languages will be taught in an enjoyable and interactive style, with plenty of interactive conversation, with early reading and subsequently writing in the mother tongue in the early years, and with skills developed for reading and writing in other languages in Grade 3 and beyond.

**Methodology**

The paper attempts to look at how the bilingual method of education can aid in strengthening the language learning process. The study further analyses case studies

of the use of the folklore of Manipur in English language teaching. It explores how folklore can be employed as ELT material using bilinguals to enhance the language skills, vocabulary, communicative skills and cultural knowledge of the learners. The target level of learners is the young learners in the age group of 7 to 14 years in the primary and upper primary schools of Manipur. Further, the study reflects on the use of folklore as ESL curriculum material in various classroom practices in an appealing way. The following points deliberate the various classroom practices:

1. Teaching values and English language skills to the students of class V (60 in number) in a school in Imphal, Manipur
2. Developing the use of figurative language to the students of class VIII (65 in number) in a school in Imphal, Manipur
3. Teaching how Learning can be more interesting and fun filled to the students of class VI (54 in number) in a school in Imphal, Manipur

To illustrate the preceding points, the folklore of Manipur is explored to teach English language using the bilingual method. The designed materials are then implemented in the classrooms. The classroom teachings are observed and further analyzed.

**Folklore as ELT material in the classroom**

**1. Teaching values and English language skills to the students of class V Using *Chainarol*, a folktale of Manipur:**

*Chainarol* is a folktale of the Meitei community of Manipur that chronicles the traditions ofchainaba, a personal combat between two warriors who fights under a moral code of conduct institutionalized in the society. In one of the combats, Haokhong Sinaikhu shot his spear directly into the thigh of TengleiMakaAmba. According to the moral code of conduct, HaokhongSinaikhu was the victor. But, TengleiMakaAmba bowed down in submission and prayed to HaokhongSinaikhu to spare his life. Thus, an oath was taken. The oath was that TengleiMakaAmba would be counted as vanquished by HaokhongSinaikhu. In case of violation, the guardian spirits would punish the violator. So, the merciful HaokhongSinaikhu pardoned him and they went back to their respective places. However, TengleiMakaAmbalied and told everyone at his place that he had vanquished HaokhongSinaikhu. When Haokhong Sinaikhu came to know of this news, he burnt the spear with which they had taken the oath. Soon after, TengleiMakaAmba died of mysterious circumstances as he had violated the moral code of conduct.

As TengleiMakaAmba had lied and taken undue advantage of the kind-hearted HaokhongSinaikhu, he was punished for his misdemeanour. The virtuous HaokhongSinaikhu thus triumphs. The narrative brings out the trials of the victory of righteousness and the downfall of evil. The universal moral theory of the triumph of the virtuous prevails in the narratives of *Chainarol*.

To teach listening skills in the classroom, the students are given listening tasks, and after they are internalized with the linguistic information, speaking skills are taught. Read the folktale. Based on the text, questions are given to the students to test their comprehension. After listening to the teacher's reading of the text, tell the students to speak about their understanding of the text and then about their views on values that can be drawn from the text. The class is then divided into groups of seven. Each group is given a paragraph from the text and asked them to analyze it. This can be followed by a group discussion with the topic 'Values in *Chainarol* where the students can listen and interact in the target language, i.e., English. Given below are some activities to teach language skills:

1. enacting a one-act play based on the story incorporating values drawn from the folktale
2. group activity: to find out and write on the various forms of folktales of the various communities of Manipur in their mother tongue

These tasks and activities engage the students to listen, observe and apply the target language. In the above classroom practices, it is observed that the motivation level of the students are greatly enhanced as they enjoy the group discussion and the performance of the one-act play based on the folktale. In the task to find out and write on the various forms of folktales, they had a chance to explore and learn the language and culture of the various communities of Manipur. This task made them reflect on the rich values, language, and cultural diversity of Manipur. The values incorporated in the folktale, *Chainarol* made them think critically and relate to their real-life situations. In the process, their language skills are also improved.

**3. Teaching how learning can be more interesting and fun filled to the students of class III *using* Liando La *(Song of Liando)*, *a folksong of Manipur***

*Liando La* is a folk song of the Vaiphei community of Manipur. It is a celebration song commemorating a feast called *Chawn* (the highest valued feast in Vaiphei custom) hosted by two hardworking orphan brothers, Liando and Thangho. The feast is held to celebrate the marriage of the elder brother, Liando and Sialchawng, the daughter of the chief of the village. According to the custom of the Vaiphei

community, Thangho composed a song for the feast. This song is in the form of a conversation between the brothers to reminisce about their hard days of struggle and their present circumstances where they can afford to organize the much-celebrated feast in the village. It also describes how self-sufficient and contented they are in the present time. The following is an extract from the song:

"Ka Unupha la saem?
Sialkul sung ah siallianpen ka pansak hi
Ka neulaiuaeimudatechuh, tun ka zi
Sialchawngkiangabu dawn a ahung uh hi
Zia hihbu a hi ti ah busingawnei pia
Zia hi a hi ti ah sagungawnei pia,
Ka kiang ua, khut daw a hung mite chuh, a dawikhawpu, tam taktak pia, ka Thai, Chawng in."

Free translation in English:

"My sister, do you agree
I included the biggest Mithun?.
Those who rebuke us when we were young
Now come begging from my Sialchawng?
Those who gave us rice husks when we begged for rice,
They who gave bones as meat,
They come to us now.
My wife, Sialchawng, give to their content!"

(Vaiphei, 2015, p. 22)

Task:

Divide the class into two groups. Ask one of the groups to find out some of the folk songs (in the indigenous languages) of the various communities of Manipur and perform in the class. Ask the other group to find some of the different folk dances of Manipur and perform them in the class. The learners can be further asked to give their observations on the performances and discuss them in class.

The above task is designed to teach listening and speaking skills and to enhance the communicative skills of the learners. The video of the folksong, *LiandoLa* (in Vaiphei language) can be played in the class and the students are asked to perform the song. Further insights can be deliberated into the origin and the performance

of the folk song, Liando La. The students are then assigned to make a comparative analysis of the folk songs of other communities of Manipur. This activity can enhance the language skills as well as the cultural knowledge of the learners. With the diverse activities and performances in the class, the students can enjoy themselves as they learn.

The tasks and activities used in the above classroom practices assisted the student participants to apply learning in real-life situations by a form of investigating the various cultural traditions in the community. In the task to find out some of the different folk dances of Manipur and perform in the class, the student participants interacted with people in the family and neighbourhood in their mother tongue to find out the information required to complete the task and the activity given to them. In this process, the student participants were able to use the content learned in real-life situations. As the student participants were familiar with the existing local values and cultural knowledge, active learning with fun takes place.

**2. Developing the use of figurative language to the students of class V *using* Hijan Hirao*, a folk song of Manipur***

*Hijan Hirao* is a folksong, sung on the last day of the Lai *Haraoba* festival. Lai *Haraoba* is a social and religious festival of the Meitei community of Manipur. The folksong narrates the poignant story of the lamentation of a tree parent for their treasured son which was destined to be axed. The tree parents' last encounter with their loving tree son at dawn is heartbreaking. The lines given below can be read from the poem to show the use of personification:

"O my son, my precious,
They have recompensed you with gold and silver for your life
They have made axe marks on your body.
When the Sun wakes up to a new morning
You will be hacked at your trunk, and
The dismembered body of you, my son
Will lie prostrate on the ground.
I have traversed every slope, every glade, and gorge
But found none that matches you.
O my son, my rarest treasure,
Who can crush this abyss of despair within me?
Who shall now replace you, the world in my eyes?"

(tr. Singh, *Hijan Hirao*, 2015: 41)

The preceding lines can be used to teach the English language. Based on the understanding of the above analysis, the students are guided to create their own sentences using personification. These sentences are then asked to share in the class. This activity enhances the listening, speaking, and writing skills of the students. The use of figurative language can be also encouraged. In another activity, the students are asked to write a short story based on the poem, *Hijan Hirao* incorporating the cultural elements and the literary devices drawn from the poem. The short story is then asked to narrate in their mother tongue in class. The use of the indigenous folksong created a platform for the student participants to reflect on their culture and explore the use of the various figures of speech to augment their language learning process.

## Conclusion

In the preceding classroom practices where folklores of Manipur are used as ELT materials, it is observed that there are some vital pedagogical implications drawn from the study. The use of the folklore adopting the bilingual method assisted the learners to augment their motivation level, creativity, and cognitive skills thereby enhancing their language learning ability. The various tasks and activities used in the classroom practices provide a platform where the learners can exercise their cognitive skills and creativity in learning the language. This clearly shows the various benefits of bilingualism in language education.

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# Vision and Mission of NEP-2020 In the Light of Sustainable Development Goals

***Sanmay Das****

***Abstract***

*In the present global scenario, we are the people who are a little bit of conscious our future generation and would always think about the fulfillment of our sustainable goal which was taken in 2015 worldwide. I think the majority of people in India or worldwide do not know about sustainability because they regularly struggle for food, water, and shelter. In the 21st Century still we could not secure the basic needs of people and it's a shame. Within 2015- 2030 was scheduled by UNO for securing sustainable goals but we all were heavily struck with the pandemic. And in this pandemic situation the Indian Govt. has given a blow globally by presenting NEP-2020. Here I have analyzed the NEP-2020 in the context of securing sustainable goals and the challenges covered for maintaining quality, equality, and inclusivity in education. The investigator tried using documentary analysis as a qualitative research method. Though, NEP-2020 is not implemented totally but criticism is going on regarding its upcoming bright or dark impact on our future generation. In continuing with the word future generation, we should carry forward the message throughout the world or nation that without sustainability our future generation cannot exist. At the very outset of NEP-2020, it has been found that it is more conscious and concerned about Sustainable Development Goal No. 4 and recommended accordingly. So, this paper is also concerned with almost all the aspects of NEP-2020 regarding establishing Sustainable Development Goals.*

***Keywords:*** *Sustainable Development Goals, National Education Policy, Future Generation, Criticism.*

## Introduction

Greta Thunberg is a Swedish environment activist who is known for challenging world leaders to take immediate action for climate change mitigation and started a movement 'School Strike for climate' under the name 'Fridays for future'. Here it

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is very much relevant because our future generation will definitely ask us and not only ask but blame us for our irresponsible behaviour. Actually, UN Secretary-General Bunn Ki-Moon, (2007) rightly said - "We hold the future in our hands. Together, we must ensure that our grandchildren will not have to ask why we failed to do the right thing and let them suffer the consequences." Sustainable development is the only way to answer such questions. In the Conference of the Parties (COP) -26,Our Prime Minister declared the 'Panchamrita Scheme' on climate change. For maintaining Sustainable Development, we should think about the three major dimensions – Society, Economy, and Environment and with all three dimensions, education may play a vital role. To run society or to move our economy or to hold the sustainability of our environment education is the only pathway to achieve the goals. Since independence till date serval of National Educational Policy for the development of an educational system that will directly affect the development of our nation was framed and implemented. The main tendency of NEP 2020 is to present India globally as a knowledge superpower. When we discuss the vision of NEP-2020, it is clearly said that NEP-2020 will transform India sustainably into an equitable and vibrant knowledge society by providing high-quality education. In introduction, at the second part it is prominently mentioned that to fulfill the agenda reflected in Goal 4(SDG 4) of 2030 seeks to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all by 2030.

**Rationale of the study**

As we know that only the fittest will survive and for surviving, we should take care of our Earth. During the pandemic when we were all confined within our homes and our activities that were harmful to our planet had been literally stopped, our environment regained and regenerated all by itself. Along with other countries in the world, India too has already taken initiative for promoting sustainable development. To develop our society, to run our economy, or to regenerate our environment we need conscious, skillful, adequate, technologically abled, and intelligent, citizens who will assure the development of our country by maintaining sustainability. NEP- 2020 is a sort of policy where we can easily find out that it is a blending of past and present, Philosophy and Science, local and global. We are trying to restore our culture and philosophy by installing modern science and technology. So this paper is an attempt to critically analyse that whether NEP - 2020 has taken the challenges and addressed almost all the issues related to sustainable development goals.

**Sustainable Development Goals**

The United Nations Sustainable Development Goals are targets for global development adopted in September 2015, set to be achieved by 2030.The aim of the Sustainable Development Goals is to transform our world. They are a call to action to end poverty and inequality, protect the planet and ensure that all people enjoy health, justice, and prosperity. Sustainable Development is a kind of idea that human beings should sustain by meeting their basic needs, while also making sure that the future generation are able to meet their basic needs. Sustainable development goals are steted as follows:-

- SDG -1: No poverty- "End Poverty in all its forms everywhere."
- SDG -2: Zero hunger -"End hunger, achieve food security and improved nutrition and promote Sustainable Agriculture."
- SDG -3: Good health and well-being- "Ensure healthy lives and promote well-being for all at all ages."
- SDG -4: Quality education - "Ensure inclusive and equitable quality education and promote lifelong learning."
- SDG -5: Gender equality - "Achieve gender equality and empower all women and girls."
- SDG -6: clean water and sanitation - "Ensure availability and sustainable management of water and sanitation for all."
- SDG -7: Affordable and clean energy- "Ensure access to affordable, reliable, sustainable and modern energy for all. "
- SDG -8: Decent work and economic growth - "Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all ."
- SDG -9: Industry, innovation, and infrastructure- "Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation."
- SDG -10: Reduce inequality - "Reduce income inequalities within and among countries."
- SDG -11: Sustainable cities and communities - "Make cities and human settlement inclusive, safe, resilient, and sustainable."
- SDG -12: Responsible consumption and production - "Ensure sustainable consumption and production patterns. "

- SDG -13: Climate action -"Take urgent action to combat climate change and its impacts by regulating emissions and providing development in renewable energy."
- SDG -14: Life below water - "Conserve and sustainably use the ocean, sea, and marine resources for sustainable development."
- SDG -15: Life on land - "Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification and halt and reverse land degradation and halt biodiversity loss."
- SDG -16: Peace, justice, and strong institutions - "Promote peaceful and inclusive societies for sustainable development, provide access to justice for all, and build effective accountable and inclusive institutions at all levels."
- SDG -17: Partnership for the goals- "Strengthen the means of implementation and revitalize the global partnership for sustainable development."

Actually, SDG 1 to SDG 3 are concerned with our basic needs, SDG 4 and 5 are very much crucial because they deal with our education and society. SDGs 6 and 7 are concerned with the development of energy. SDG 7 and 8 have dealt with the economy and again it is also very much crucial. The main focus of SDG-10 and SDG-12 is on sustainability. SDG 13 and SDG 15 deals with issues that are very much significant and relevant to the environment and the last two SDG deals with our moral values an peace and global partnership for promoting sustainable development.

**Challenges of Sustainable development in the Indian context**

India is almost like a subcontinent because of its huge dimension population multi-culture, multilingualism, multi-religion that makes it a land of diversity where establishing sustainability is really more challenging in India. As Sustainable development is a concept and to establish the concept into action in diverse situation, we should find out the main obstacles behind this. The main obstacles as identified are (i) Huge population, (ii) Poverty, (iii) Inequality, (iv) Shortage of drinking water and land for agriculture, (v) Human health, (vi) Rate of illiteracy, (vii) Deforestation, (viii) Consumption of energy, (ix) Urbanization, (x) Lack of mass awareness. Though the government has taken initiatives to resolve these challenges but yet, in practical real-life situation these problems do exists because of our negligence or lack of awareness almost at all levels.

**Sustainable Development Goal and NEP-2020**

Main findings: Positive approach towards Sustainability in NEP-2020

(i) In the second of introduction, it is clearly mentioned that in the global education perspective reflected in SDG-4,we have to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all for 2030,which is very much positive regarding sustainable development.

(ii) Again, in this para it has been also mentioned that by reconfiguring and fostering learning we have to achieve sustainable development goals by 2030.

(iii) In the next para our concern with climate change, increasing pollution, depleting natural resources, and how we can meet those challenges in the future skillfully to become one of the largest economies in the world has been depicted.

(iv) In NEP-2020 it has been said that our education will be experimental, holistic, integrated, discovery-oriented, learner-centered, flexible, and fulfilling employment which covers SDG 8 by decent work and economic growth.

(v) In the vision of NEP -2020 it is clearly defined that by making true Indians not by pride but by deeds and commitment for the wellbeing of humans living globally which covers SDG 4.

(vi) Again NEP-2020 supports SDG 4 in point 3 by curtailing dropout rates and ensuring Universal access to education at all levels.

(vii) In point 4.4 of NEP-2020 it has been found that to fit globally or for struggling in our day-to-day life for food, water, and shelter or to resolve any critical situation we need holistic development which covers SDG 1 and 2 by ensuring food and saying no to poverty.

(viii) In point 4.23 where curricular integration of essential subjects, skills and capacities have been discussed and a large amount of flexibility has been given to the student to become good,successful, innovative, adaptable, and productive human being with all fundamental duties, citizenship skills and values environmental awareness, sanitation, and hygiene are a clear indication of maintaining sustainable development.

(ix) Point No.6 completely covers SDG -5 and 10 where equitable and inclusive education has been emphasized by reducing gender inequality, empowering girls improving all other socially economic disadvantage group, SC and ST, persons with disabilities, and also transgender have been taken into consideration and this is definitity on good sign for future development.

(x) In point 8.8 a clear indication has been given to achieve sustainable development by ensuring universal, free, and compulsory access to high-quality and equitable primary and secondary education for all children.

(xi) In Points no.14.4.1 and 14.4.2 where it mentions about some initiatives to be taken by the Government and Higher Education Institutions to ensure sustainibility like gender balance in admission, inclusive based curriculum, employability, potential ensure buildings and facilities, sensitization for all regarding general identity, no discrimination.

(xii) In Point no.16.4 the exposure of vocational education towards the fulfillment of Sustainable Development Goal no. 4.4 in India's demographic context has been described clearly.

**Criticism**

(i) To survive in this world and to save for our future generations we should give more emphasize on Sustainable Development. In NEP-2020 more emphasize has been given to SDG-4 but other sustainable development goals should be emphasized because the pandemic that broke out in the recent past has taught us how to live not only to depend on bookish knowledge but experimental knowledge is equally important.

(ii) In NEP-2020 some lines have been written about our resources, energy, and environment but more recommendations were required to understand the necessity of sustainability.

(iii) Through Curriculum or Pedagogic Skill, NEP 2020 should have given direction towards introducing the concept of sustainable development goals in the classroom situation because it is in the classroom the students

who are the future citizens can become more aware of these problems can generation as they will face the real problem.

(iv) To establish SDGs1,2, and 3 mere emphases has been given towards changing our approach and attitude through our education system. In this country where population,hunger, and poverty are the real problems, to eradicate these problems we need strict recommendations and policy in this regard.

(v) In NEP- 2020 lots of lines have been written about restoring our enriched culture, philosophy, history, medicine, science but how we could establish peace,value,justice, and social well-being in the present turbulent situations which are essentially required for our existence needs more clarification.

**Conclusion**

Sustainable development goals came by replacing Millennium development goals. So, a question arises: why is this replacement? Actually, due to our outrageous behaviour, the situation gets continuously in the reverse direction.If the adverse situation will go on for another fifty years, the human race will suffer adverse. So, this serious issue should be taken into consideration. As sustainable development goals are a vision and by transforming these visions into action we should make our world be safe for our future generation. If we will do that then the next generation will not blame us but if we do not do then we have to face the criticism. Our Mission is to establish Sustainable development goals which is not an easy task only recommendation or Policies will not do. But if there is a will, there is a Way. NEP-2020 came under an adverse situation and to me NEP-2020 is a ray of hope. As in NEP-2020, it has been clearly said that we should achieve the sustainable development goal of inclusive and equitable education system we can say that it is a step forward to Save Our World, Save Our Generation. By strong regulation and supervision and above all consciousness, we can bring the change which may save us. So lastly, we can conclude with the hope that NEP-2020 will definitely bring some positive, productive changes through our Integrated Education System throughout India to the world which is tremendously required to face the present.

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# Research Abstract

**Elementary Education: Right To Education Act, 2009**

| | |
|---|---|
| **Title** | Impact Of Right To Education Act, 2009 On The Education Of Muslim Children |
| **Research Scholar** | Sk. Rezaul Hoque |
| **Supervisor** | Md. Kutub uddin Halder |
| **Joint Supervisor** | Indrani Nath |
| **Department** | Department of Education, University of Calcutta |
| **Degree Awarded** | Ph.D. 2019 |
| **Availability** | Central Library, University of Calcutta |

***Introduction***

In this study the researcher attempted to measure the impact of the Right to Education Act, 2009 particularly on the education of Muslim children through careful study of access, enrolment, retention of Muslim children at elementary level of Education. The purpose of this study were to help the policy makers to draw an action plan for educational, socio-economical and infrastructural development of the minorities for improving the quality of their life and reducing the imbalances among the communities and to perpetuate wider social awareness among the common people thereby constructively sustaining ongoing discussions and dialogues on this delicate issue.

***Objectives***

1) To study the access, enrolment and retention of the Muslim children at elementary level of education.
2) To compare the enrolment and retention before and after implementation of the RTE act, 2009.
3) To identify the causes of drop out of Muslim children at elementary level of education.
4) To compare the causes of drop out between Muslim boys and Muslim girls.

5) To compare access, enrolment and retention between Muslim community and other community children.

6) To compare socio-economic status (SES) between Muslim community and other community children.

## Hypotheses

**1)** $\mathbf{H_{01}}$: There is no significant difference in accessibility to elementary education between Muslim and other community children.

**2)** $\mathbf{H_{02}}$:There is no significant difference in NER between Muslim and other community children.

**3)** $\mathbf{H_{03}}$: There is no significant difference in retention between Muslim and other community children.

**4)** $\mathbf{H_{04}}$: There is no significant difference in Socio-Economic Status (SES) between Muslim and other community children.

**5)** $\mathbf{H_{05}}$: There is no significant difference in NER of Muslim children before and after implementation of the RTE Act, 2009.

**6)** $\mathbf{H_{06}}$: There is no significant difference in retention of Muslim children before and after implementation of the RTE Act, 2009.

## Population

The target population for this research study was the Muslim children of 6-14 years' age group of the rural areas of South 24 Parganas, West Bengal, India. South 24 Parganas distict consists of a mixed religious population district comprising of 35.6% of Muslim minority (CENSUS 2011). The Muslim population was found to be scattered almost all throughout its five sub-divisions.

## Sampling Technique and Sample Size

It was an empirical cross-sectional study. Multistage stratified random sampling technique was adopted for selecting the sample. The target population for the study was the Muslim children of 6-14 years' age group of the rural areas of South 24 Parganas, West Bengal. Two hundred fifty (250) Muslim families and one hundred (100) non-Muslim families were taken as sample from the five sub-divisions of the district South 24 Parganas, West Bengal, India.

***Delimitation***

The study was delimited to children of 06-14 years' age group residing in five villages of the district South 24 Parganas, West Bengal and only their access, enrolment, and retention at elementary level of Education were studied.

***Tool***

To conduct the study, the researcher prepared a household survey schedule in consultation with the supervisors and finalized on the basis of experts' opinion and results of the pilot study. The schedule contained- age, sex, income, education, family pattern, number of family members, occupation of the individual members of the family, relationship among family members, real estate property, home environment, and detail information regarding drop out and non-enrolment. To analyse the socio-economic status of the families of the children, the researcher used Kuppuswami's socio-economic status scale.

***Variables***

The variables: Demography, Socio-economic status, Access, Net Enrolment Ratio, Retention, and Dropout were measured in this study.

***Data Collection***

Data for the present study were collected between the periods April, 2015 and April, 2016. The researcher collected all necessary information regarding access, enrolment, retention, drop out, educational qualification, age, gender, number of family members, occupation, income, family pattern, pattern of habitation, transportation etc. Data were collected through extensive household survey. Students as well as the parents of the students were interviewed to get information about the causes of drop out and other related facts like non-enrolment, child labour, mid-day-meal etc.

***Analysis of Data***

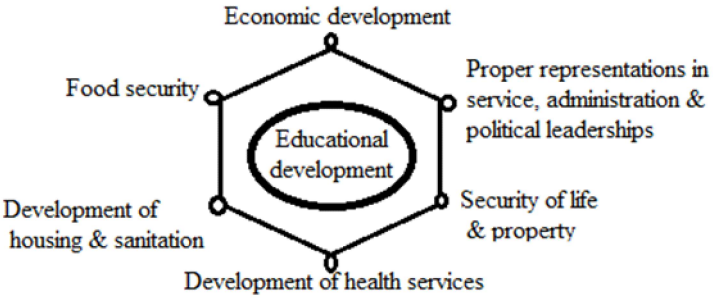
To fulfil the objectives of the research study, both quantitative as well as qualitative analysis were done. For quantitative analysis various statistical techniques like percentage, mean, Z-test, and chi-square test have been adopted. On the other hand, qualitative analysis was done on the basis of observations and discussions with the children, head of the families, and other family members during the household survey. The data was divided into three phases. After and before implementation of RTE Act, 2009 were considered as phase I and phase II respectively and before implementation of Sarva Shiksha Abhiyan was regarded as phase III. Then a comparison has been made among them to see the impact of the RTE Act on rate of enrolment, retention, and dropout.

***Major Findings***

- Muslims were educationally, occupationally as well as economically lagging far behind than other community.
- About 37% of Muslim families were living below poverty line.
- Near about 70% father and 60% mother of Muslim children were either illiterate or educated up to primary level.
- After implementation of RTE Act, 2009, Net Enrolment Ratio of Muslim children increased from 93.6 (Phase II) to 95.6 (Phase I) and Retention increased from 54.7% (Phase II) to 87% (Phase I).
- Rate of dropout of Muslim children decreased by more than 75% after implementation of the RTE Act, 2009. More Muslim boys than girls were found to be engaged as child labour.
- The problems of illiteracy, unemployment, poverty, unhealthy habitation, improper representation at political leaderships of Muslims still exist significantly. Along with these problems, non-conducive social and home environment due to disturbances by narrow political output, antisocial activities, child trafficking are responsible for drop out of Muslim children in some areas.

***Recommendation***

The researcher recommends that the government may take necessary measures to prepare and implement a comprehensive development plan based on following hexagonal parameters (development of economy, housing and sanitation, health services, food security, security of life and property and proper representation in service, administration and in political leadership) for educational development of Muslim minority population.



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## Research Abstract

**Secondary Education:** A Trend Analysis

| | |
|---|---|
| **Title** | Development of Secondary Education in Darjeeling: A Trend Analysis |
| **Research** | Arpana Singh |
| **Scholar Supervisor** | Sridipa Sinha |
| **Joint Supervisor** | Mita Banerjee |
| **Department** | Department of Education, University of Calcutta |
| **Degree Awarded** | Ph.D. 2019 |
| **Availability** | Central Library, University of Calcutta |

**Introduction**

Secondary education occupies a crucial position in the hierarchy of the educational structure. It acts as a bridge between the elementary education and higher education. It is a significant stage of education which has far reaching effects on the life and personality of the individual. Secondary education is equally important for the progress of the nation. In this context the present research seeks to study the development of secondary education in Darjeeling. Darjeeling is a district in the state of West Bengal in India. During the British rule the area served as a sanatorium for the British soldiers. Later, the region witnessed gradual development in all fronts. From then the development of mass education started gradually in the region. It is important to trace the development of secondary education in this region because Darjeeling has a rich history of educational development. There are schools built during the British era which serve the people till date.The development of secondary education during the post-independence period has been rapid. However, the current status needs to be studied so that the region may receive full accessibility to secondary education. Also, studying the available infrastructural facilities, problems and performance of the students in the Board examinations would help in focusing on the crucial factors for future development of secondary education in theis region. The development of secondary education in Darjeeling during the post-independence period in terms of growth in the number

of schools, teachers and students has been studied. The trends in the growth of the schools, teachers and students have been traced in this research. Infrastructural facilities play an important role in the progress of schools and the performance of the students. Therefore, the available infrastructural facilities in the three sub-divisions of the district of Darjeeling, i.e. Darjeeling Sadar, Kalimpong and Kurseong have been studied. Secondary education faces a lot of problems from many aspects. In this research an attempt has been made to find out the problems faced by the Principals, students and teachers of the secondary schools of the three sub-divisions of Darjeeling district. The academic performance of the students act as an important component in the progress the students make in their academic as well as professional career. Therefore, this study has also traced the performance of the students of the secondary schools of the three sub-divisions for the period 2013-2017. The trends involved in the development of secondary education in Darjeeling form the focal point of this study.

***Objectives***

1. To trace the development of secondary education in the district of Darjeeling during the post–independence period.
2. To find out what are the available infrastructural facilities at the secondary level of schooling in the three sub-divisions of Darjeeling i.e., Darjeeling Sadar, Kalimpong and Kurseong.
3. To find out the problems of secondary education in the three sub-divisions of the district of Darjeeling.
4. To find the status of secondary education in the three sub-divisions for the last five years (2013 – 2017).

***Method***

Descriptive survey method combined with a trend analysis method has been used in this research.

***Population***

In the present study the population comprises of the secondary schools of the three sub-divisions of Darjeeling District, the Principals and Teachers of the secondary schools of the three sub-divisions of Darjeeling District and the students studying in Classes IX and X of the secondary schools of the three sub-divisions of Darjeeling District.

***Sample***

The sample of the present study comprises of: 18 secondary schools – 6 from each sub-division and 2 schools from West Bengal Board of Secondary Education (WBBSE), Council for the Indian School Certificate Examinations (CISCE) and Central Board of Secondary Education (CBSE) Boards,

18 Principals – 6 from each sub-division,

54 teachers – 18 from each sub-division and 500 students – 168 students from Darjeeling Sadar, 166 students from Kalimpong and 166 students from Kurseong.

***Sampling Technique***

Stratified random sampling technique has been used in the present study.

***Findings***

The findings relating to the development of secondary education in Darjeeling during the post independence period i.e. from 1947 to 2013 indicate that there has been a constant rise in the growth trends of the number of institutions providing secondary education, the number of students and as well as the number of teachers during the given period. After independence, the Government of India has made a number of efforts to look into the development of secondary education. It has led to the formation of various Commissions, Committees, Policies and schemes to enquire into the developmental aspects of secondary education. The effects of the Governments initiative to improve secondary education is also reflected on the secondary education of Darjeeling. This is because with every change brought about in the national system of secondary education, had its impact on secondary education of the region of Darjeeling as well. Till the 1980s the development of secondary education in Darjeeling in terms of the growth in the number of schools, teachers and students showed an upward trend, however, it was not a rapid development and growth, most of the years the numbers remained somewhat constant. However, after 1985, there was a spurt in the growth of the schools, teachers and students. The most recent developmental scheme of the Government – RMSA for secondary education has been successful in bringing about more accessibility, quality and equity in the system of secondary education. However, in case of the region of Darjeeling, the schemes of RMSA are not implemented fully in the secondary schools of the three hill sub-divisions, but are applicable in the schools of Siliguri. This might be the reason why the growth in the number of schools, teachers and students during the period 2008-2013 has not shown a very remarkable increase. When RMSA was proving to have increased the enrolment rates, improving the facilities of the schools and providing quality secondary

education in other parts of the country, Darjeeling has not been able to enjoy the benefits in terms of quality and improved secondary education through RMSA. The numbers during this period are almost constant with a very slight change. Therefore, in order to make secondary education accessible to more children and to improve the quality of secondary education provided in the region it would be better if the schemes of RMSA would be implemented fully removing the impediments for its implementation in the schools of the hills as well.

Proper infrastructural facilities are an essential part of any school and the education provided there. Proper infrastructural facilities in the schools are an important requirement for getting the affiliation to the various Boards like the Central Board of Secondary Schools (CBSE), Council for the Indian School Certificate Examinations (CISCE) and the West Bengal Board of Secondary Examinations (WBBSE). The three major Boards clearly state the rules regarding the infrastructure of the schools in relation to the library, classrooms, laboratories, inspection, school building, playgrounds, etc. The RMSA also gives equal importance to the availability of infrastructural facilities in order to provide quality secondary education. The schools in the three hill sub-divisions have satisfactory level of infrastructure; however, improving in terms of the availability of science laboratories, hostels for students, teachers quarters, transport facilities, availability of canteen, doctor's room, students hostel, separate toilets for differently abled students, ramps at the entrance of the schools would be able to help the children more in their academic pursuit.

Although major developmental measures have been taken to strengthen secondary education, yet this stage of education faces a lot of problems. The problems of secondary education in this study was studied from the perspectives of administration, issues related to teachers, issues related to teaching learning and the provisions available to the students. In this context it was seen that the problems faced by the secondary school Principals, teachers and students are regarding irregular inspections, high teacher-pupil ratio, dearth of teachers in the science subjects, remedial classes, lack of laboratory assistants, free health check-ups and truancy in some schools. The problems would be reduced to a great extent if there would be proper coordination between the stakeholders of secondary education in the region.

Academic performance of the students is an important factor for their advancement in careers well as in academics. The performance of the students in the Board examinations of CBSE, CISCE and WBBSE from 2008-2013 have been taken into account in this study. The rising trends were observed in the

percentage of successful candidates and also in the pass percentage of the students in all the three sub-divisions. There were no large differences noticed in the performance of the students belonging to the CBSE, CISCE and WBBSE schools. Therefore, it may be said that the overall academic performance of the students in the Board examination is good in the three hill sub-divisions of the district of Darjeeling. Since studies have shown that the availability of proper facilities in school and the proper functioning of the school in all respect affects the learning ability of the students, therefore, with added improvements in the provisions of the schools the performance of the students in the Board examinations may enhance more.