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Message from the Director, SCERT, Assam

In the realm of education, research-based interventions have now attained the status of an essential tool, deemed indispensable for ensuring the quality of education. Conventional and stereotypical educational endeavours have proven to yield meagre outcomes in terms of advancing the educational landscape of a nation. Hence, it becomes imperative that our state embraces innovative, research-driven actions to propel itself forward in alignment with the contemporary advancements within the educational domain.

Since its inception, SCERT, Assam, has consistently underscored the importance of research and activities rooted in research, particularly pertaining to school and teacher education. It is with great pride that the Department of Research and Evaluation at SCERT, Assam, presents the Sixth volume (No. I) of its Educational Research Journal. This compilation showcases research contributions from scholars engaged in diverse educational spheres.

It is my anticipation that this enlightening journal will effectively facilitate the dissemination of research findings amongst educational practitioners. Moreover, I believe it will serve as a valuable resource for teachers, teacher educators, educational planners, and administrators, aiding them in comprehending the current status of school and teacher education. Furthermore, it will empower them to formulate pertinent, outcome-oriented strategies for the advancement of these domains.

I extend my heartfelt gratitude to all the diligent contributors of research papers, the esteemed members of the editorial board, the discerning reviewers, the assiduous editors, and the unwavering support group. Their painstaking efforts have culminated in the publication of this volume.

Dr. Nirada Devi
Director, SCERT, Assam, Ghy-19
Chief Editor

Editorial

The imperative integration of research-derived discoveries for the enhancement of quality control within educational endeavours is now an undeniable necessity for every educational institution. Through research-oriented planning, various indicators of quality education can be rigorously assessed, thereby formulating strategies for the judicious and optimal utilization of available educational resources. While research seminars and conferences have garnered favour among academicians in our state recently, the publication of research papers in the form of a journal remains considerably limited. Consequently, the constrained dissemination of findings from these research inquiries curtails their potential utility.

In an effort to address this shortfall, the Department of Research and Evaluation at SCERT, Assam, is pleased to present the Sixth volume (No. I) of its educational research journal, complete with an ISSN. This endeavour not only aims to disseminate the findings of these studies among educational stakeholders but also to instil motivation among educational practitioners to delve into research endeavours tackling diverse educational challenges within the state. Recognizing the scarcity of such opportunities in Assam, a concerted effort has been made to include a substantial number of research papers, fostering the proliferation of research-driven actions for elevating educational quality.

The editorial board has undertaken minor revisions, ensuring coherence in language and clarity of the content, while retaining the essence of the original submissions. Although individual researchers have undertaken studies, a systematic approach has often been underutilized, potentially due to a lack of orientation or awareness about methodological rigor in research. Consequently, those engaged in educational research should be equipped with proficient research techniques, allowing their comprehensive studies to effectively inform the formulation of education policies. While a significant portion of studies conducted are either action research or applied research, there is an evident need for fundamental and foundational studies across various dimensions of education to uphold quality standards. Thus, appropriate authorities are encouraged to provide comprehensive exposure to individuals driven by research motivation, offering grant schemes that facilitate meaningful research endeavours.

A notable observation pertains to the fact that implementing departments are often less inclined toward research objectives. Consequently, even if high-quality research is conducted, the outcomes tend to languish within university libraries or other repositories, with limited accessibility for those who could enact these findings in practical educational contexts. It is essential to infuse a conducive research environment within the State, nurturing an appetite for innovative methodologies and techniques that yield superior outcomes. This involves continuous orientation of researchers and updates regarding evolving research paradigms from academic organizations.

In this edition, an earnest endeavour has been made to present a peer-reviewed journal, benefiting from the expertise of distinguished educational specialists, particularly in the realm of research. I extend my heartfelt appreciation to Prof. Daisy Borah Talukdar at Dibrugarh University; Dr. Yeasmin Sultana, Assistant Professor at Tezpur University; Mayuri Sharma, Associate Professor at Gauhati University; Prof. Nil Ratan Roy at Tezpur University and Dr. Angel Rathnabai, Assistant Professor at CIET, NCERT, for their commendable contributions, instrumental in refining the papers for publication.

Furthermore, I seize this moment to express my gratitude to the dedicated researchers who have contributed their papers to this journal, the members of the editorial board for their rigorous efforts, and the supportive group for their unwavering commitment in realizing this comprehensive volume of the educational research journal.

Dr. Jayanta Kr. Sarmah,
Editor

CONTENT

The Impact of National Education Policy 2020: Issues and Challenges

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Abstract

The National Education Policy 2020 (NEP 2020) envisions transforming the educational system to meet the demands of 21st-century India. Globally, education policies are being increasingly realigned to enhance economic prosperity, social mobility, and citizenship. One of the core principles of NEP 2020 is "flexibility, allowing learners to choose their learning trajectories and programmes, thereby shaping their life paths according to their talents and interests." The NEP 2020 advocates for an interdisciplinary approach to education, highlighting the importance of integrative thinking. It is imperative for education policymakers to embark on this journey themselves. There is a pressing need to re-evaluate education policies at the regional level to create an environment where individuals can leverage their education and training to secure employment, improve living standards, and contribute to the social development of their communities. The paper suggests several measures to maintain quality education and promote the transformation of educators in response to the evolving nature of work.

Keywords- *Educational System, Social Mobility, Citizenship, Flexibility, Social Development*

Introduction

Education is fundamental for achieving full human potential, developing an equitable and just society, and promoting national development. Providing universal access to quality education is the key to India's continued ascent, and leadership on the global stage in terms of economic growth, social justice and equality, scientific advancement, national integration, and cultural preservation. This National Education Policy (NEP) 2020 is the first education policy of the 21st century and aims to address many growing developmental imperatives of our country. This Policy proposes the revision and revamping of all aspects of the educational structure,

including its regulation and governance, to create a new system that is aligned with the aspirational goals of 21st century education, including SDG4, while building upon India's traditions and value systems.

The foundational pillars of this Policy are access, equity, quality, affordability and accountability. It believes that the purpose of education is 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.

NEP-2020 has offered a mandate for change and a complete overhaul of higher education in India. It has recommended a wide range of changes for its stakeholders- students, teachers, staff, service providers, and even the government itself. One may accurately call it a national 'restructuring' policy for education. Transformation starts with restructuring and thus makes restructuring critical.

The First National Education Policy 1968 was formed in the time of the Indira Gandhi Government. Second National Education Policy 1986 was formed in the Rajiv Gandhi Govt. which was modified in 1992 by P.V. Narasimha Rao Govt. After 34 years, the nation got the new National Education Policy 2020 (NEP2020).

Objectives

1. To evaluate the changes introduced in the curriculum and pedagogical approaches as a result of NEP 2020;
2. To identify the key infrastructural and resource-related challenges faced by educational institutions in implementing NEP 2020;
3. To study the impact of NEP 2020 on teacher training programs and professional development initiatives; and
4. To analyze how NEP 2020 addresses issues of inclusivity and accessibility in education, particularly for marginalized and underprivileged communities.

Methodology

Based on available documents, the paper attempts to examine and analyze the significant structural changes, infrastructure challenges, professional development issues and an overall societal impact of NEP-2020; naturally, the main source of data is secondary. Moreover, the study is analytical in nature in which review of relevant literature form the base for author's understanding and deliberations on the topic at hand. A good amount of key information, data and descriptions have been derived from internet. By and large the conclusive outcome of the paper reflects author's analytical skill in the best interest of all stakeholders concerned with NEP-2020 and to make them understand the policy in a holistic manner.

Review of Literature

Vijay Sanjeev. (2023). has concluded that the NEP 2020 is a set of reforms aimed at transforming India's education system. It proposes several ambitious measures, including the promotion of a multidisciplinary approach to education. The successful implementation of these measures will require significant resources and expertise. To address these challenges, there is a need for concerted efforts by the government, educational institutions, and other stakeholders.

Dr. Deepa Choudhari (2022) concluded that the NEP 2020 leads all the stakeholders to meet the demand at the industrial, national, and global level and ensure the standard of living and overall economic growth. Any changes in the present scenario will have both positive and negative impacts; hence, the concentration should be more on the positive impacts and adopt them effectively and efficiently for the welfare of the country.

The NEP 2020 has come at the right time and the objective is very noble. But, there lies a world of difference between laying down a policy on paper and following it in spirit. The success of NEP 2020 and the pace of its implementation depend to a large extent on how successfully the government, universities and schools can tide over the practical challenges facing it.

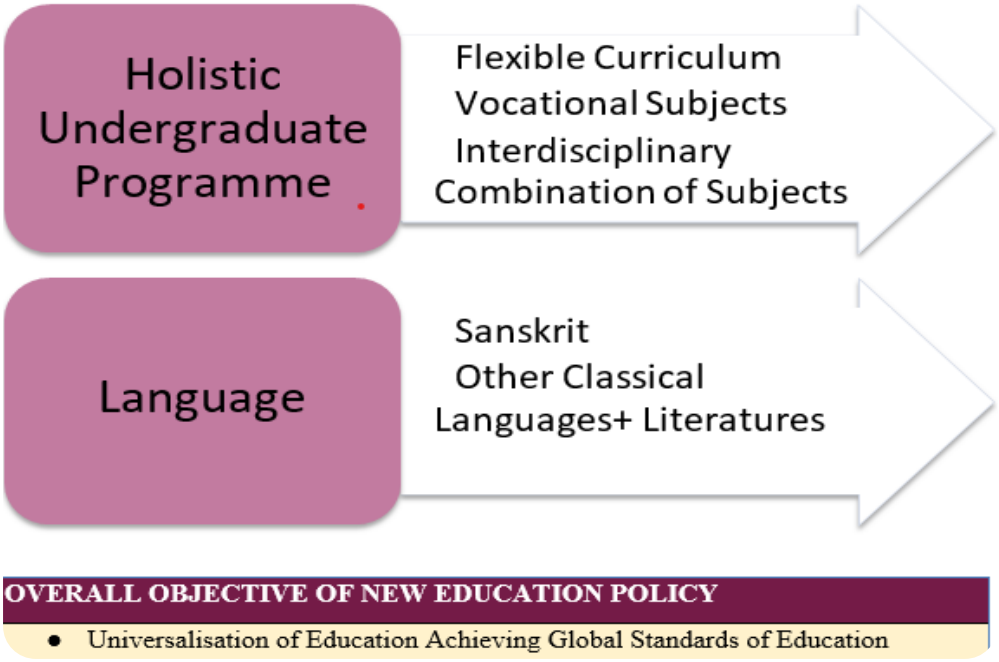
The Need for a New National Education Policy (NEP)

Up until the introduction of the New National Education Policy in 2020, there were many pitfalls in the Indian education system. Memorization was prioritized more over the understanding of concepts. In addition to this, the presence of multiple boards was a big issue. Each board had different learning methods for different skills, and then every student had to take the same standardized board exam. Furthermore, in the past years, more emphasis was laid on learning or mastering traditional subjects and less on developing vocational skills. In the new education policy, all the pitfalls and limitations of the Indian education system are taken care of. Moreover, the policy intends to bridge the gap between vocational and formal education.

National Education Policy 2020

The National Education Policy (NEP) 2020 is set on a transformative vision to adapt the educational system to cater to the needs of the 21st century in India. Over two decades prior, UNESCO released a seminal report titled "Learning the Treasure Within," authored by the International Commission on Education for the Twenty-first Century, chaired by Jacques Delors. This report advocated for a comprehensive approach to education and learning on a global scale, significantly influencing educational policies for years to follow. With the advent of free market economic reforms and the socio-economic transformation of societies post-1990s, it becomes pertinent to revisit the report and reassess the educational policies that have been implemented. A key recommendation from the report, particularly relevant to the education sector, is the concept of "learning to be." This principle underscores the importance of an individual's autonomy in pursuing a path of interest, which could be considered a passion, and ultimately achieving their life's aspirations. It is imperative for policymakers in the North-East region to emphasize this concept in the forthcoming years, as it aligns with the guidelines of the NEP 2020. A cornerstone principle of the NEP 2020 is "flexibility," which enables learners to select their educational trajectories and programs, thereby choosing their life paths based on their talents and interests. The NEP 2020 serves as a guide in this regard,

recommending an interdisciplinary structure for educational programs.



National Education Policy 2020: A Way of Holistic Life

The NEP has made its objectives clear. It aims to restructure the existing higher education system to make it holistic, integrated, accountable, enjoyable and employable, reorienting it towards quality research. It is a revolutionary document and marks a tectonic shift from the existing norms that will shake the narrow boundaries of disciplines and programmes. If implemented sincerely with a careful designing of syllabi and curricula, it has the potential to transform India into a self-reliant knowledge superpower by the end of the first half of this century. As the cornerstone of all educational decisions, the ray of hope has come through the new National Education Policy, 2020, which talks about sustainable human development and universal education learning with equity and learning outcomes with research oriented mindset.

Fundamental Principles of NEP 2020

The purpose of the education system is 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.

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

1. 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;
2. According the highest priority to achieving Foundational Literacy and Numeracy by all students by Grade 3;
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;
4. No hard separations between arts and sciences, between curricular and extracurricular activities, between vocational and academic streams, etc. in order to eliminate harmful hierarchies among, and silos between different areas of learning;
5. 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;
6. Emphasis on conceptual understanding rather than rote learning and learning-for-exams;
7. Creativity and critical thinking to encourage logical decision-making and innovation;
8. 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;

9. promoting multilingualism and the power of language in teaching and learning;
10. Life skills such as communication, cooperation, teamwork, and resilience;
11. Focus on regular formative assessment for learning rather than the summative assessment that encourages today's 'coaching culture';
12. Extensive use of technology in teaching and learning, removing language barriers, increasing access for Divyang students, and educational planning and management;
13. 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;
14. Full equity and inclusion as the cornerstone of all educational decisions to ensure that all students are able to thrive in the education system;
15. Synergy in curriculum across all levels of education from early childhood care and education to school education to higher education;
16. Teachers and faculty as the heart of the learning process – their recruitment, continuous professional development, positive working environments and service conditions;
17. 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;
18. Outstanding research as a corequisite for outstanding education and development;
19. Continuous review of progress based on sustained research and regular assessment by educational experts;
20. A rootedness and pride in India, and its rich, diverse, ancient and modern culture and knowledge systems and traditions;
21. Education is a public service; access to quality education must be considered a basic right of every child;

22. Substantial investment in a strong, vibrant public education system as well as the encouragement and facilitation of true philanthropic private and community participation.

Comparison between New Education Policy 2020 and National Policy of Education 1986

The major differences between the current education policy i.e., New policy education of 1986 and New education policy of 2020. An attempt had also been made to figure out the challenges in the existing policy that led to the emergence of NEP 2020.

S. No.	New Education Policy, 2020	National Policy of Education, 1986
1.	Ministry of Education	Ministry of Human Resource Development
2.	Gross Enrolment Ratio -50% (2035)	Gross Enrolment Ratio -26.3% (2018)
3.	5+3+3+4 format	10+2 format
4.	Break-up of age: 3-8, 8-4, 11-14, 14-18	Break-up of age: 6-16, 16-18
5.	Exam- class 3, 5, 8, 10, 12	Exam- Each year up to class 12
6.	Board exam- objective and description, twice a year	Board exam- Descriptive, Once a year
7.	No hard separation of Art, Commerce, and Science. All will be mixed with the curriculum	Hard separation- Art, Commerce, Science
8.	Curriculum content will be reduced to its core essentials	No such policy
9.	One vocational subject is a must- classes 6 to 8	Not mandatory in existing format
10.	Bag- less days encouraged	No such policy

11.	Health card and check-up will be done	Health card and supplements programs are already running
12.	360-degree holistic report card for students including skills	No such policy
13.	Coding to be taught from class 6 onwards	Not mandatory in the existing format
14.	3 language- by state, region, and choice of student	3 languages- Hindi, English, and the regional
15.	Indian Sign Language students with hearing impairment to be developed by NIOs	No such policy
16.	Pre-school to be added in KVS	Starts from class 1
17.	Preparatory class Balvatika for children below the age of 5- by ECCE ECCE-qualified teacher	Not mandatory in the existing format
18.	Report card to have reviewed from teachers, peers and students as well	Report card to have reviewed from teachers
19.	NCC wings- secondary and higher secondary schools	NCC wings- secondary and higher education schools
20.	Free boarding schools like JNVs for poor students	Free boarding schools like JNVs for poor students
21.	National Scholarship Portal for SC, ST, OBC, and SEDG	National scholarship portal for SC, ST, OBC, and SEDG
22.	Education sector to get 6% of GDP	Education sector to get 4.5% of GDP
23.	Minimum qualification for teaching- 4-year integrated B.Ed. degree by 2030	No such policy
24.	IITs will include multidisciplinary fields like arts, humanities, etc	No such policy

25.	National Testing Agency (NTA)- It will conduct aptitude tests and exams in the science, humanities, languages, arts, and vocational subjects, at least twice every year for university entrance exams.	No such policy
26.	E-content in total 8 languages	Lack of regional language e-content
27.	Multiple entry and exit options are available for incomplete courses. Their credits will be transferred through the Academic Bank of Credits	This is the main difference between both the policies with credit storing for higher studies
28.	For Higher studies, 4 options are given: 1-year diploma, 2-year Advanced diploma, 3- year Graduation, 4- year Graduation with research	For Higher studies, 4 options were already there: 1/2- year Diploma, 3-year Graduation, 4- year Graduation with research
29.	After graduation, a Master's degree of 1 year and 2 year with research options is given	After graduation, a Master's degree of ½ year was already there
30.	M.Phil. is discontinued. Doctorate can be pursued after a Master's	First M.Phil., then a Doctorate could be pursued
31.	The best Indian universities to set up campuses in other countries and the best 100 foreign universities may come to set up in India	No such policy
32.	At least one large multidisciplinary institution in or near every district by the year 2030	No such policy

33.	Controlling Authority- HECI (Higher Education Commission of India), except Medical and Legal. Divided into 4 parts: the National Higher Education Regulatory Council (NHERC) for regulation, the General Education Council (GEC) for standard setting, the Higher Education Grant's Council (HEGC for funding, and the National Accreditation Council (NAC) for accreditation	Controlling Authority- UGC, AICTE (Technical), ICAR (Agriculture), BCI (Legal), CCIM (Medical), ICAI, ICSI, CBSE, NCERT, etc.
34.	Adult learning- Tech-based options through apps, TV etc.	Adult learning- several programs are already running

Significance of Early Childhood

The early years, spanning from birth to six years old, are a critical stage in a person's development, backed by substantial research. It's essential for families to play a significant role in nurturing their children during this time. Through education, we've been able to influence the natural growth of individuals, emphasizing the comprehensive development of the human spirit. Thus, education can be seen as a means of intervention, which occurs through formal, informal, and non-formal methods. Informal education, in particular, is considered more organic than its formal and non-formal counterparts. There's a common belief that informal education is sufficient for the early childhood period. However, considering the vast potential of this stage, there are numerous opportunities to guide a child's natural growth in a manner that benefits society. It's crucial to make every effort to ensure children have the necessary and suitable conditions for their full development. Failing to do so would be a disservice to the child. Regrettably, this situation is prevalent among many.

Looking back at history, it's clear that early childhood education often received little attention from the public, especially from policymakers, until much later and in smaller numbers. After gaining independence, India shifted its focus to higher education (University Education Commission, 1948-49) and secondary education (Secondary Education Commission, 1952-53). The first comprehensive national education policy was introduced in 1968, which proposed a 10+2+3 structure for the education system, excluding early childhood education from its framework. It wasn't until 1974 that the first national policy specifically for children was developed, leading to the establishment of the Integrated Child Development Scheme (ICDS) under the Department of Social Welfare. Early childhood education was finally acknowledged in 1986, highlighting the importance of comprehensive and integrated child development. However, it remains somewhat detached from the Department of Human Resource Development, which oversees the overall educational progress of the nation. The ICDS covers both the prenatal and early childhood phases of development.

The creation of Anganwadis/Balvatika as a 'playground' for kids aged 3-6 years marked a significant step forward in early childhood education. The role of an anganwadi worker is immense, as they are responsible for the care of not just the 3-6 year-olds but also infants, mothers who are breastfeeding, pregnant women, and teenage girls. Despite the critical nature of their work, their compensation does not reflect the true value of their efforts. This situation is indeed concerning. The quality of education a child receives during their early years can significantly impact their future performance in matriculation, higher secondary, and beyond. Therefore, parents should prioritize their children's early education over the later stages of schooling. Fortunately, the National Educational Policy 2020 acknowledges that over 85 percent of a child's brain development happens before the age of 6 and recognizes the gap in access to quality early childhood education for many. It is encouraging to note that the policy has now prioritized the universalization of quality early childhood education by 2030. This is a positive step towards ensuring that early childhood education is given its rightful place within the educational framework (5+3+3+4).

Academic Structure	Age	Remarks
Existing Academic Structure	●10yrs-age-(10-16) ●2yrs- age-(16-18)	
PEDAGOGICAL SYSTEM		
Revised Academic Structure	5yrs-(Anganwadi/Pre-school/ Balvatika)-Age (3-6) Class (1&2) Age (6-8)	Formal Education as per Global Standards
	3yrs-Class (3-5) Age (8-11)	
	3yrs-Class (6-8) Age (11-14)	
	4yrs-Class (9-12) Age (14-18)	

Sustainable Development Goals and the NEP:

1. **Quality Education (SDG 4):** SDG 4 is a call for nations to prioritize and provide quality education for all. The National Education Policy (NEP) of India aligns with SDG 4's principles and objectives, advocating for equitable access to education and advocating for educational reforms. The NEP also recognizes the need for vocational training and skill development to create a workforce that is educated and employable. This commitment to holistic education and critical thinking skills equips students with the tools they need to thrive in an increasingly complex and interconnected world. By providing vocational training opportunities alongside traditional academic pathways, the NEP empowers individuals with practical skills that can enhance their livelihoods and contribute to a more inclusive society. This synergy between a global vision and a national policy holds the potential to transform the educational landscape in India and contribute significantly to the global agenda of sustainable development through education.
2. **Gender Equality (SDG 5):** The principle of gender equality is crucial for sustainable development. SDG 5 aims to achieve gender parity and empower all women and girls. The National Education Policy (NEP) in India advocates for the removal of gender biases in educational materials. It also places a strong

emphasis on encouraging the participation of girls in STEM subjects. The NEP serves as a critical instrument in reducing gender disparities and advancing gender equality globally.

3. **Clean Water and Sanitation (SDG 6) and the NEP:** The National Education Policy (NEP) in India emphasizes the importance of safe and hygienic educational environments. Schools are responsible for providing clean drinking water and proper sanitation facilities. This aligns with the global mandate articulated in Sustainable Development Goal (SDG) 6. The NEP recognizes the significance of clean water and sanitation in promoting healthy living and overall well-being. It instills essential habits in students from a young age and contributes to the development of responsible citizens who understand the value of clean and sustainable practices. By ensuring access to clean water, schools create an environment where students can thrive physically, mentally, and academically.
4. **Decent Work and Economic Growth (SDG 8) and the NEP:** SDG 8 is a vision for sustained, inclusive, and sustainable economic growth. India's National Education Policy (NEP) focuses on skill development and vocational education, aligning with SDG 8. The NEP promotes multidisciplinary learning and experiential learning, connecting education directly to the real world. By prioritizing skill development, the NEP ensures that students are well-educated and well-prepared for the job market. This approach fosters employability, encourages entrepreneurship and innovation, and ultimately fosters a society where individuals can secure meaningful and sustainable employment.
5. **Sustainable Cities and Communities (SDG 11) and the NEP:** The National Education Policy (NEP) in India is a commitment to fostering intellectual growth and recognizing the role of sustainable practices and environmental consciousness in shaping a better future. It encourages educational institutions to embrace sustainability principles and promote waste management, energy efficiency, and green campuses. The NEP's approach extends beyond traditional education and permeates the physical spaces where learning occurs. It contributes significantly to Sustainable Development Goal 11 (SDG 11) by promoting sustainability at the institutional level. The emphasis on waste reduction, recycling, and responsible disposal instills environmentally responsible behaviors in students and sets an example for the wider community. By reducing waste and adopting

eco-friendly practices, institutions contribute to more sustainable and resilient urban environments, aligning with SDG 11's goal of promoting sustainability within cities and human settlements. Green campuses prioritize renewable energy sources, maximize green spaces, and reduce environmental impact. By nurturing green campuses, the NEP exemplifies its commitment to creating inclusive, safe, resilient, and sustainable environments for learning. The policy reinforces the idea that education is not just about knowledge transfer but also about instilling values and behaviors that can shape a more sustainable future for all.

6. **Climate Action (SDG 13) and the NEP:** Climate change is a moral and existential imperative, affecting not only the natural world but also human societies and economies. Sustainable Development Goal 13 (SDG 13) urges urgent action to combat climate change. The National Education Policy (NEP) of India aligns with SDG 13 by incorporating environmental education, awareness, and sustainable practices into curricula at all levels. The NEP emphasizes practical, eco-friendly practices within educational institutions, reducing carbon footprints and minimizing environmental impact. Students are encouraged to take an active role in safeguarding the environment through hands-on activities, conservation efforts, and community engagement. Sustainable practices are also recognized in the design and management of educational campuses, utilizing renewable energy sources, maximizing green spaces, and reducing carbon footprint. Through these measures, the NEP contributes to building a sustainable and resilient future for India and the global community. It epitomizes the essence of climate action and reinforces the idea that education is a transformative force that can drive urgent and collective efforts.

Discussion

Education must embrace the task of fostering an environment conducive to the development of personalized action plans designed to mold each individual into a unique personality. This transformation can only be achieved through the integration of diverse innovative approaches to value education and the interdisciplinary study of subjects. We require comprehensive education for both current and future generations due to the societal demand for creativity, problem-solving skills, teamwork, cultural and ethical awareness, and attention to detail. To boost the self-confidence of young people and ensure the best living conditions for everyone, we must adopt this kind of education that

balances individual liberty with social duty, aiming to cultivate the moral and spiritual aspects of humanity within our educational framework.

The outbreak of the pandemic has highlighted the necessity and value of digital learning, leading to a surge in the popularity of a blended teaching approach that combines in-person and online sessions. In light of the current situation and the demand for flexibility, the University Grants Commission (UGC) has endorsed the use of contemporary teaching methods, including this hybrid model. Additionally, artificial intelligence (AI) is increasingly playing a significant role in India's educational landscape, and its integration should be further promoted. The New Education Policy (NEP) has been formulated and put into action, encompassing various teaching modalities. It has been acknowledged that AI can address the quality deficiencies in the educational sector, warranting its significant consideration.

The famous Delores commission report (UNESCO,1996) that outlined a future vision for education in the 21st century highlighted seven key challenges that people are currently dealing with: a. The balance between global and local issues, b. The conflict between universal and individual needs, c. The clash between traditional values and contemporary progress, d. The trade-off between long-term and short-term goals, e. The struggle between competition and equal chances, f. The rapid growth of knowledge and the ability to absorb it, g. The conflict between spiritual and material aspects.

The effects of these conflicts are now clear to everyone on Earth, necessitating urgent action in various sectors. This situation has resulted in a noticeable moral dilemma that every country is currently dealing with.

Mahatma Gandhi, a person of remarkable foresight, anticipated the potential for societal decay if caution was not heeded by both governance structures and individuals. In 1925, he outlined seven societal vices in Young India: 1. Trade devoid of moral values, 2. Education lacking in character, 3. Pleasure without guilt, 4. Politics devoid of ethics, 5. Science lacking compassion, 6. Wealth without effort, 7. Religion without service. These seven principles serve as a detailed roadmap for policymakers and executors across nations. India must recognize that without embodying a society founded on values, its aspiration to lead the world in spiritual matters will remain a far-off goal. Translate the seven societal vices into Seven Individual Action Points, focusing on doing instead of merely thinking; and witness the transformation!

It's important to remember to outline our goals or strategic plans for the North

East. For a long time, our students relied heavily on 'permanent' government positions, but these opportunities have significantly decreased in comparison to the growing number of 'educated' individuals. Our educational systems, particularly at the college and university levels, continue to emphasize traditional subjects that lead to degrees in specific fields. Therefore, when a typical student enrolls in an undergraduate program, neither the student nor the educational officials have any plans to prepare them for the modern job market in the near future. The emphasis is on earning a degree in a specific field, which may seem idealistic, but practicality suggests that such a straightforward approach won't work if the immediate goal is to secure a job. While acknowledging the importance of highly knowledgeable individuals and basic researchers in advancing a field, it's also crucial to consider the practical need to prepare a large number of students with essential life skills or additional training to succeed in a highly competitive job market. Our approach to restructuring education in the region should begin with this fundamental insight.

Prof Srikant Datar , the globally acclaimed Indian-American economist and the dean of Harvard business school in his seminal co-authored work "Rethinking the MBA: Business education at a crossroads," argues for a shift from 'knowing' to 'doing' and 'being' in education. Extending his argument to the education policymakers of the North East, we can say that our education systems need a similar rethinking whereby our governments, institutions, administrators, and faculty should focus on restructuring our courses and programmes to incorporate three major elements – globalization, leadership and integration.

1. **Globalization –** The 2019 World Development Report introduces three key suggestions that will shape our approach to 'globalization' within education. Firstly, it emphasizes the importance of cultivating in-demand skills, focusing investments on rural and marginalized areas, and integrating 'higher-level cognitive abilities and social behavior' into our educational programs. It advises that educational institutions in the region, be it statewide or at a broader regional level, collaborate across different disciplines to enhance their programs. This could involve incorporating additional courses, workshops, and training into the standard curriculum to make them more globally relevant. The concept of 'globalization' implies embedding a comprehensive understanding and training that will equip our students with the knowledge to comprehend the country's broader economic

landscapes, market requirements, and global economic trends. On a more specific level, students enrolled in a course in a rural college in Mizoram or Tripura should be exposed to the typical work environments, cultural aspects of other regions within India and globally, as an integral part of their educational experience.

2. **Leadership-** A shift in focus is required to incorporate 'leadership abilities,' ensuring our graduates are equipped with the skills to tackle problems, understand different cultures, and take accountability for their actions and impact on others. These traits cannot be learned overnight or even before an interview. We should introduce dedicated courses with motivational sessions integrated throughout the programs, and assign faculty mentors to support them. Currently, it's up to each student to pick up these skills independently, which often results in not standing out to potential employers. Our educational institutions must prioritize 'leadership growth' as a fundamental part of every course.
3. **Integration –** The third significant update to our educational policies in the area should involve incorporating 'integration' skills within our educational framework. Our educational programs should provide training on developing a comprehensive way to examine any issue from various angles, drawing on different areas of knowledge. The National Educational Policy 2020 demonstrates this approach by suggesting an interdisciplinary structure for programs. Currently, students in political science can enroll in courses across various fields, such as computer science, to explore politics on social media. This will deepen their understanding of political theories and address the impact of technology on political landscapes. We will require such professionals in the future for emerging roles in political campaigns or social media management. By combining courses in statistics, these graduates can enter the field of predicting election outcomes. It's crucial for the era, and our policymakers should lead by example in this direction.

Findings

A typical young person with some education in the Northeast Area often doesn't know how to apply their skills and concentrate on starting a business, advancing in their career, or even exploring job opportunities in the eastern part of the world, particularly with growing connections with ASEAN nations.

Initially, the Indian constitution placed education under the State List, but it wasn't until the Emergency period and specifically with the 42nd amendment to the Constitution that it was moved to the Concurrent List. However, in reality, education has gradually shifted to the Union List, where the federal government makes and enforces its decisions regarding the structure, financing, and operational rules for education from elementary to tertiary levels. The introduction of the National Education Policy (NEP) 2020 is set to further centralize this control.

The NEP 2020 promises to conclude the affiliating system, which will pose significant obstacles for current public universities and those set to be established in the near future, all in line with the NEP 2020 framework. Private universities stand to gain from the NEP 2020, thanks to their ability to increase fees and other charges to fulfill policy mandates and to align with market demands. However, this will undoubtedly lead to increased pressure on teachers and officials with low salaries in these universities.

The NEP 2020 introduces a comprehensive transformation in the leadership and management structure of universities. It establishes a corporate approach among universities, elevating the role of VCs to that of a company's CEO. Public universities will progressively adopt the public-private-partnership model, potentially leading to private entities taking control. The university system is currently experiencing a shortage of opportunities for critical thinking. Expressing opinions freely will become a rare occurrence within universities.

Regulations have been established and put into action, yet the circumstances appear to remain unchanged. The workers at the Anganwadi level receive the lowest salaries among all educators, if they are even classified as such.

The infrastructure at Anganwadi centers receives the least attention. The advancement of basic school teachers is supported by Diploma in Elementary Education (D.El.Ed.) programs, while those for secondary school teachers are supported by Bachelor of Education (B.Ed.) programs, which are somewhat mandatory for these educators. However, programs like Diploma in Early Childhood Education/ Diploma in Pre-School Teaching offered by various universities and institutions are not mandatory for those aspiring to work as an anganwadi worker. The National Policy on Early Childhood Care and Education highlights that the quality of an early childhood care and education program is primarily determined

by the staff, yet they are often overlooked in the educational system. The policy also points out that the preparation and training of early childhood care and education teachers, which is crucial, is not given much emphasis. The recent education policy has somewhat acknowledged the significant role and status of early childhood education.

The National Education Policy (NEP) 2020 has concentrated significantly on developing basic reading and math abilities in children. In response, the Indian Government has initiated the NIPUN Bharat program with the goal of achieving basic reading and math skills in children by 2026-27 through a dedicated mission. The NEP 2020 has given equal importance to teaching digital skills, vocational training, and entrepreneurial skills at both the school and university levels, viewing these as essential components of the curriculum.

It's important to highlight that the National Education Policy 2020 makes a significant move towards supporting hands-on learning and work-based training programs. This approach aims to motivate students, who are the leaders of the future, to raise awareness among themselves and their communities about the urgent importance of advocating for and safeguarding our cultural legacy. Additionally, this will pave the way for Edu-Tourism and integrate Rural Tourism into the broader tourism sector.

Technical and vocational training is a key component of the National Education Policy 2020, and efforts are underway to fortify and broaden the vocational training network in Ladakh as well.

Suggestions and Recommendations

We might wish that the positive motives behind the policy are shown in how it's put into action, and both the kids and the country benefit from it as intended. It's clear that there are obstacles at the local level; however, there are also solutions.

1. As caregivers, educators, lawmakers, or anyone invested in the growth of our nation, it's crucial that we concentrate, both in thought and in deed, on the early years of a child's life.
2. The youth of India must transform that knowledge into tangible strength that will propel this area and its inhabitants in the upcoming years. Adopting the

conventional paths of degree-granting institutions that only yield educated young people with certificates will no longer be viable.

3. While maintaining exclusive paths for advanced basic research for a limited group, the majority of students should have the opportunity to enter the job market, career, or profession that offers a definite plan for acquiring the necessary skills while pursuing a standard program.
4. It's crucial that we review our educational strategies at the local level to create a setting where people can make use of their education and skills to find jobs, enhance their quality of life, and support the growth of their community.
5. The Atal Tinkering Lab (ATL) of the NITI Aayog has developed a set of educational materials and guides on entrepreneurship for students in schools. These students have applied the design thinking training from ATLs to generate ideas for products, which were then nurtured with the help of Atal Incubation Centres (AIC). The materials, including the curriculum and handbooks, are available for public use, allowing state and UT education departments to tailor the content to fit their specific needs. The NITI Aayog is also offering assistance to states interested in implementing similar programs. It's crucial that students from rural areas in India acquire the necessary skills and mindset to drive significant change in their communities, the country, and worldwide. Therefore, our education system needs to incorporate such training as a fundamental component of the curriculum.
6. It's crucial to create a suitable teaching program on entrepreneurship, adapt the current national skills qualifications framework (NSQF) curriculum for vocational education in schools starting from sixth grade, and make digital skills training available in every school.
7. Without a trained set of counselors, course planners and mentors within the institutions, such a policy cannot be implemented. Therefore, we need to identify champions within our educators and administrators, reorient them towards the changing nature of works and convert them into mentors. Perhaps such a transformation is long overdue.
8. India needs to adopt a holistic approach to align its National Education Policy (NEP) with SDGs, including quality education, gender equality, clean water,

sustainable communities, and climate action. Prioritize gender-sensitive curriculum, expand vocational training, maintain safe and hygienic environments, promote green campuses, and embed environmental education. Strengthen community and parental engagement, establish monitoring and evaluation mechanisms, and enhance teacher training to create an inclusive and sustainable educational environment. This will contribute to India's and the global community's sustainable development goals.

Speaking to both students and educators during Teacher's Day, Governor Jagadish Mukhi mentioned that on this special day, significant modifications have been introduced to the education system, ranging from elementary to higher education. With the backing and collaboration of the community, the National Education Policy is being completely put into action.

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Effect of Monitoring and Mentoring System on Development of Quality Elementary Education

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Abstract

It is a research based article. The main objective of this research project was to find out the effectiveness of monitoring and mentoring initiatives on development of quality elementary education of state of Odisha. The research study was included 30 elementary schools for the study. The survey type study was used and various tools like Information Schedule, Interview Schedule, School Observation Schedule and FGD Schedule for data collection. The study reveals that there was a positive effect of monitoring and mentoring initiatives on development of quality elementary schools. The monitoring and mentoring process should be undertaken by a structured team at district and block level on regular basis for academic support to the point elementary teachers at school.

Key words : *Monitoring, Mentoring, Development and Quality Education*

Introduction

India has granted through a constitutional amendment by making "Right to Elementary Education" as a fundamental right. This legislation is necessitated essentially due to our inability to achieve UEE, despite of various programmes, initiated by the successive government. Universalisation of elementary education implies universal element, retention and comparable levels of good learning achievement. Ensuring that elementary education of high quality is a pressing concern for educators, policy makers and researcher. Quality education at elementary level is crucial for several reasons i.e. foundation building, developing skills, cognitive development socialization, future success, equal opportunities, lifelong learning building confidence, preparing for challenges and social impact. In this connection a monitoring and mentoring system is essential to develop teacher performance, enhanced student achievement, early intervention,

teacher support and development, accountability, parental involvement, continuous improvement, equitable education and overall quality education. Organizational and administrative theories justify the need for an effective monitoring and inspection system for optimal performance of a system. Similarly supportive evidences are also available which suggest the positive role played by the monitoring and mentoring system in maintaining and improving the quality of service in educational institutions. However in countries with a tradition of persisting poor quality of elementary education, lacuna and inadequacies in the monitoring and mentoring system are found to be responsible for such a state of affairs. Correspondingly, efforts are made to improve the quality elementary education through quality interventions such as academic support through block, DIET-CRC linkage, classroom observation by DIET faculties, National and State Level Assessments, composite school grants, learning enhancement programme, project innovation training to in-service teachers and school Heads elementary library grants and ICT and digital initiatives. In this context monitoring and mentoring team members play a crucial role in ensuring the quality of elementary education and supporting the improvement of schools and student outcomes.

The monitoring team includes District Project Coordinator, SSA (DPC), District Inspector of Schools (DIS), Sub-Inspector (SI), District Institute of Education and Training (DIET) Faculty Members, Coordinator of SSA Office, Block Resource Centre Coordinator (BRCC), Cluster Resource Centre Coordinator (CRCC), District Resource Group Member (DRGM) and Block Resource Person (BRP). These members are performed data collection, data analysis, school visit, feedback and support identification of learning gap, development of action plans, monitoring progress, reporting and documentation, capacity building and community engagement.

Rationale of the Study

To ensure quality education at elementary level for all children a new strategy is developed by the Samagra Shiksha Abhiyan authorities for effective monitoring and provide ongoing support and feedback to teachers, monitor student progress and identify areas for improvement and develop and implement targeted intervention. A lot of money and provision has been provided to the State, District, Block and Cluster level monitoring team for fruitful monitoring work and to provide a onsite support and guidance to Head teachers, Asst. teachers, SMC and MTA members at school premises

for better functioning of schools to achieve higher and better quality of elementary education at elementary level through classroom observation, co-teaching, coaching, mentoring, professional development, problem solving, and resource support. The research study aims to investigate the role of monitoring and mentoring systems in improving the quality of elementary education specifically; it will examine the impact of regular monitoring and mentoring on teacher performance, student outcomes and the overall quality elementary education.

Statement of the Problem

"Effect of Monitoring and Mentoring System on Development of Quality Elementary Education"

Objectives of the Study

The following objectives are taken for the study:

1. To examine the process of monitoring and mentoring system for academic support in improving quality elementary education.
2. To explore the types and extent of the academic support provided to the teachers in delivering quality education to children.
3. To find out the effect of academic support system on capacity building of teachers for quality education.
4. To examine the quality and extent of linkage among the different categories of monitoring personnel and resource institutions within the district.

Research Questions

1. Does the process of monitoring and mentoring system for academic support systematic and effective?
2. How do monitoring and mentoring system influence teacher performance and student outcomes in elementary education?
3. Is there any effect of monitoring and mentoring system on development of teacher's competencies?
4. Is there any effect of monitoring and mentoring system on development of learner's achievement?

5. What is the quality and extent of linkage among different personnel and institution?

Scope and Delimitation of the Study

1. The study has been undertaken in 03 blocks i.e. Urban, Rural and Coastal block of Bhadrak district.
2. The study covers only monitoring and mentoring system of the Samagra Shikha Abhiyan.
3. The study covers only 30 schools i.e. 12 primary and 18 upper primary schools.
4. The study has been carried out under survey method. The tools/techniques like information schedule, questionnaire, interview schedule, observation schedule have been used to collect relevant data and information.
5. Descriptive statistics and chi-square (X^2) analysis has been used for analysis of data.

Operational Definition of Key Words

Effectiveness

Effectiveness means "Producing a desired or intended result according to a pre-determined goal". The result must be explicit and available for service so as to meet the needs of the individual and society. So every monitoring activity should be directed towards effective attainment of a planned outcome. (IGNOU 2007)

Monitoring

Monitoring in a broader sense has been defined as continuous a assessment of progress, diagnosis of strengths and weakness and provision for remedial corrective measures. Therefore, continuous and comprehensive monitoring and subsequent learning from one's own and others experiences is crucial for effective implementation of plans and programme. (NCERT - 2007)

Mentoring

Mentoring refers to relationship between an experienced individual (the mentor) and a less experienced person (the mentee) aimed at guiding, supporting and developing the mentee’s skills, knowledge and abilities.

Academic Support system

It refers to provide onsite support to teachers in preparation of lesson plan, organizing learning activities, preparation of TLM, Classroom management, evaluation process and preparation of formative assessment questions, remedial teaching and preparing activities or hard spots of different subjects for different classes.

Sample and Sampling Technique of the Study

The Bhadrak district has been selected for area of the study. Out of Seven (07) blocks three (03) blocks i.e. Bonth, Bhadrak and Chandbali have been selected on the basic of rural, urban and coastal area of the Bhadrak district. Out of total elementary schools of sample 3 blocks only 30 elementary schools have been selected i.e. 10 elementary schools from each block. The 10 elementary schools from each sample block have been taken from differently corner of the block. The present study has included 30 Headmasters, 60 Teachers, 300 students, 30 Parents, 60 SMC members and 18 CRCCs. Stratified random sampling procedure has been adopted for the study.

Tools Used

1. School information schedule to identify the different facilities and record used in the schools.
2. Questionnaire for Headmaster to know the Monitoring and Mentoring activities taken in schools.
3. Interview schedule for teacher to assess the effect of monitoring and mentoring activities.
4. Interview schedule for CRCCs to know the implementation status of monitoring and mentoring work.
5. Interview schedule for BEO/H.M/ABEO/DEO/DIET Faculty to find out the effect on teachers capacity and learners achievement.
6. Focus Group Discussion schedule for assessing status and effect monitoring and mentoring of the programme.
7. School observation schedule for researcher to observe and assess the holistic activities of the school.

Procedure for Data Collection

The required data have been collected by the Field Investigators in Five phases. So Phase-I refers to selection of sample schools from sample block with discussion with pedagogy coordinator, CRCCs and help of baseline survey data. Phase-II refers to collect necessary data and information about schools with the help of School Information Schedule. Phase-III reference to collect data and information relating to implementation of FLN Programme from teachers, students, parents / SMC member, ABEO / CRCC through interview schedule. Phase-IV intents to observe the classroom transaction of Odia language, Mathematics of Class-V with help of classroom observation schedule. Phase-V followed focus group discussion with help of self-made schedule among the Headmaster, Teachers, parents, SMC members and CRCCs to collect their opinion and suggestion on effect of monitoring and mentoring work.

Statistical Technique Used

The collected data has been tabulated and analyzed keeping in view the objectives spell out. The statistical techniques of percentage, mean and Chi-square (X2) analysis has been used to analyze the collected data. Wherever need graphical representation has been made for better understanding of the results.

Analysis and Interpretation of Data

Table-1
Monitoring & Mentoring team provided support to school as perceived by Head Teachers & Asst. Teachers

Sl. No.	Particulars	No. of respondent said "Yes" out of 198	Percentage
1	Infrastructure development	173	87.37
2	Beautification of School	164	82.82
3	Enhancement of attendance & retention	161	81.31
4	Development of academic Environment of school	174	87.87

5	Pedagogical interventions	158	79.79
6	Capacity building of teachers	163	82.32
7	Improvement of Learners achievement	165	83.83
8	Community participation in school management	160	80.8
9	Assessment & sharing	159	80.3
10	Remedial teaching for students	153	72.72
Mean Value		**163**	**72.32**

The analysis of the table-1 clearly reveals that the monitoring and mentoring team members have taken various initiatives like infrastructure development, beautification of school, enhancement of attendance & retention rate, development of academic environment, improvement of quality of pedagogical intervention, capacity building of teachers, enhancement of learner's achievement, community participation in school management, assessment and sharing properly and remedial class for further improvement of quality elementary education. Hence more than 84% of Head teacher & 82% of Asst. teacher have taken steps for enhancement of quality elementary education at elementary level of Bhadrak district.

Table-2

Academic support system of monitoring & mentoring personnel on curricular activities of school

Sl. No.	Particulars	No. of respondent said "Yes" out of 198	Percentage
1	Preparation of Annual School Development Plan	162	81.81
2	Create comfortable learning environment in school	154	77.77
3	Preparation of subject wise & class wise TLM	165	8.333
4	Monitoring classroom teaching learning process	158	79.79

5	Onsite support to teachers	159	80.30
6	Unit test question preparation	163	82.32
7	School based assessment	160	80.81
8	Conduct of remedial class	149	75.25
9	Use of ICT in classroom process	146	73.73
10	Community involvement in academic support	147	74.24
Mean Value		**156**	**78.79**

The detail analysis of the table-2 clearly reveals that more than 84% of monitoring and mentoring members were taken initiatives for development of quality education at elementary school level. Hence the monitoring and mentoring team members taken appropriate steps for preparation of lesson plan, lesson dairy, create comfortable learning environment, preparation of subject wise and class wise TLM, academic support in classroom process, onsite support to teachers, preparation of unit test preparation, school based assessment, conduct of remedial coaching class, try to introduced ICT intervention in the classroom process and encourage community participation in academic support system with regard to enhance of quality education at elementary school level.

Table-3

Effect of monitoring and mentoring activities on enhancing Teachers' performance

Sl. No.	List of Particulars	No. of respondent said yes out of 198	Percentage
1	Empowered teachers to prepare lesson plan & lesson dairy	23	11.61
2	Motivated teachers to take class on child centered teaching learning process	29	14.65
3	Developed competency to manage the teaching learning process effectively	14	7.07

4	Enhanced teaching skill, communication skills & leadership quality of the teachers	16	8.08
5	Developed competency to organize multi-grade class smoothly	12	6.06
6	Develop skills to handle time and task in the class effectively	09	4.55
7	Prepared school based assessment procedure in the class	21	10.6
8	Prepare TLM corner, FLN corner for the students	24	12.12
9	Effectively organized remedial teaching for students	12	6.06
10	It helps to handle SC, ST, Girls & CWSN children during classroom process and non academic activities	38	19.2
Total		**198**	**100.00**

The analysis of above table-3 clearly remarks that monitoring and mentoring activities are certainly helpful to enhance the classroom practices with regards to enhancement of teachers competencies. There is a positive effect of monitoring and mentoring activities on effective classroom practices. Hence the analysis of Chi-square (X^2) result reveals that there is significant effect of monitoring and mentoring activities on enhancing quality of classroom process as the calculated value is 35.469 which is higher than the table value for degree of freedom at 5% & 1% level of significance.

Table-4

Status of Effect of Monitoring and Mentoring activities on Learner's achievement

Sl. No.	Item on Learners Achievement	No. of respondent said yes out of 300	Percentage
1	Develop problem solving skills	21	7.00
2	Develop creative thinking	34	11.33
3	Improve learners achievement in each subject	19	6.33
4	Enhancement of knowledge and understanding level of students	45	15.00
5	Develop socio-emotional value	19	6.33
6	Better achievement in curricular activities	48	16.00
7	Improve skills for better achievement in co-curricular activities	31	10.33
8	It helps to develop holistic development of students	44	14.67
9	It motivates learners for critical thinking.	22	7.33
10	It helps to develop cultural and artistic skills among students	17	5.67
Total		**300**	**100.00**

The analysis of above table-4 clearly reveals that there are certain effects of monitoring and mentoring activities with regard to enhancement of learner's achievement. Hence the monitoring and mentoring activities has positive effect on development of good relation among students and teachers, competency

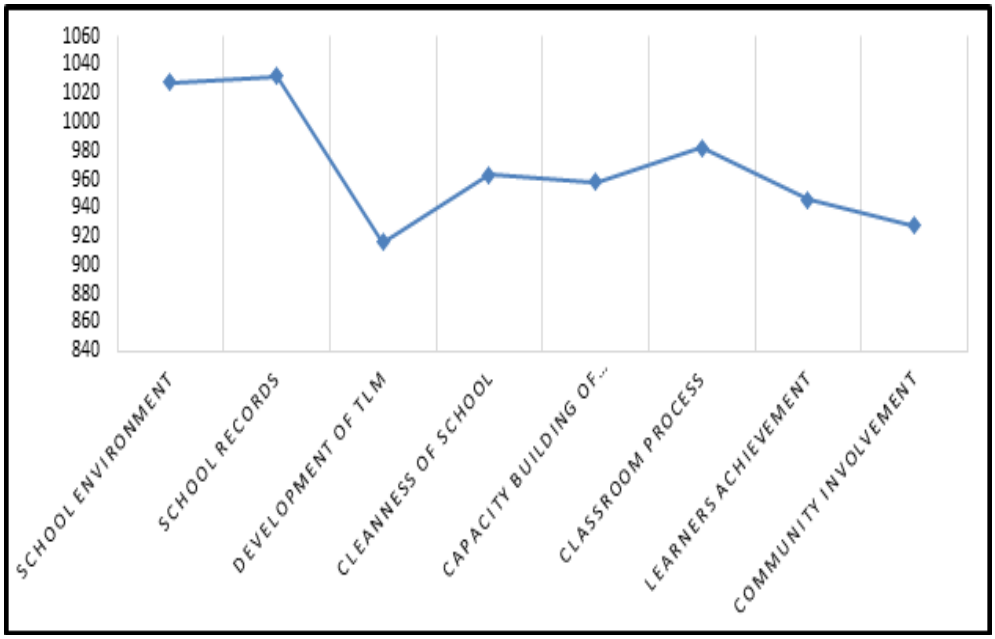
development on FLN, learners achievement in different subjects, enhancement of attendance and retention rate, develop values, skills and belief among students, better achievement in curricular and co-curricular area, holistic development, good achievement in formative assessment and good participation and achievement in creative and artistic activities. The Chi-Square (X^2) analysis reveals that there is a significant effect of monitoring and mentoring activities on learners' achievement at elementary. As the calculated value of X^2 (Chi-square) is 33.153 which is higher than the table value for 9 degree of freedom 5% and 1% level of significance is 16.919 & 21.666 respectively. The result, thus monitoring and mentoring activities was positive effect on enhancing learners achievement.

Table-5

Effect of monitoring and mentoring system on enhancement of Quality Elementary Education

Sl. No.	Dimensions of monitoring & mentoring work	Observed Value	Mean value
1	School Environment	1028	3.42
2	School Records	1032	3.44
3	Development of TLM	916	3.05
4	Cleanness of School	963	3.21
5	Capacity Building of Teachers	958	3.19
6	Classroom Process	982	3.27
7	Learners Achievement	946	3.15
8	Community Involvement	928	3.09

The analysis of the above table-5 clearly reveals that the mean value in each dimension/ item is above the average value. The average value is 2.5, so each dimension shows more than 3 mean values. Hence it is highlighted that there is a positive effect of monitoring and mentoring activities on development of Quality Education at elementary school level.



Findings of the Study

1. More than 82% monitoring and mentoring personnel taken for development of infrastructure of the schools, beautification of school, increase attendance and retention rate, improve academic environment, pedagogical process, develop teachers competency and learners achievement, active community participation in school management, school based assessment and remedial teaching for enhancing quality education.
2. More than 78% monitoring personnel taken various initiatives during monitoring and mentoring activities for curricular development such as development of Annual School Development Plan, Creating comfortable learning environment, preparation of TLM, onsite support, question preparation of unit test & SBA, conduct of remedial class, Use of ICT in classroom process and ensure community participation for development of Quality education.
3. About 76% of monitoring personnel undertaken various motivation for teachers to organize co-curricular activities such as preparation annual calender for cultural activities in the school during the academic year.

4. More than 72% of monitoring personnel taken steps for development of teacher competency in relation to smooth management of classroom, introduce innovative pedagogy in classroom process, special attention to SC, ST, Girls& CWSN Children, prepare FLN corner and empower for time & task on classroom process.
5. Basing on observed value and mean value there is a positive effect of monitoring and mentoring activities on enhance of Quality elementary education with regard to development of school environment, maintenance of school records, preparation and collection of TLM, cleanness of school, capacity building of teachers, classroom transaction, learners achievement & community involvement.
6. CRCCs, ABEOs, BEOs maintained always good linkage and cooperation during monitoring and mentoring activities for enhancing quality elementary education. But ADEOs, DEOs, DIET Principal & Faculties and other administrative officer are not maintaining, full cooperation regular manner in different aspects.
7. The suggestive measures like prepare systematic planning, process and review, separate monitoring team to provide academic support only, more financial support, provide structured monitoring format, Research & periodic survey, target oriented monitoring and use of appropriate tools should be taken consideration for further improvement of monitoring & mentoring work at district, block and cluster level.

Conclusion

Monitoring and Mentoring is considered to be an essential component of each and every programme for its effective implementation. There is a lack of effective monitoring mechanism / strategy for improving quality aspect of elementary education. Every programme must include its own mechanism for progressive development. In the present context quality elementary education can be visualized only in terms of preparation of school environment, teachers' classroom process and achievement of children. Retention of all enrolled children and achieve essential levels of learning is challenge to S.S. Now status of monitoring team is good and sometimes working for improving quality elementary education. Various problems relating to quality education can be removing from the school through systematic and regular monitoring work. So essential support and facilities like mobility, financial support, guideline, monitoring format should be provided by S.S authorities to monitoring team for achieving better and higher quality of elementary education.

Suggestions

1. There should be well structured monitoring team at district and block level with specific job chart of every personnel attached to the monitoring team.
2. Monitoring work and academic support is an important and difficult task for every person. So time to time sufficient guideline and academic related material should be provided to monitoring personnel to play an active role for development of quality elementary education.
3. More financial support should be provided to every monitoring personnel to meet the necessary expenditure like fooding, traveling etc. during monitoring work.
4. After monitoring and academic support work for a period of time a report should be prepared by the monitoring personnel with process, effect and suggestion for the quality education.
5. Systematic planning, process, review should be done by competent authorities for better and effective monitoring work in the field of elementary education.
6. The members of monitoring team should be engaged in academic support work only rather than non-academic work like data collection distribution of different materials, attending meeting and distributing physical materials to the beneficiaries.

Educational Implication of the Study

1. The study will helpful to all the monitoring authorities to know and understand the present status and its effect on teachers performance and learners achievement at elementary level.
2. The research study will certainly helpful to the monitoring personnel like DEO-cum DPC, BEO of Schools, ABEOs school, DIET, Principal and faculty members, BRCC, CRCC and SMC for further strengthening the monitoring work at district and block level.
3. This type of study will helpful for educators, resourceful person, researcher, po9licy maker and teachers for taking interest to strengthen the monitoring and mentoring system.

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A Study on Challenges of Multi-grade Teaching Experiences of Primary School Teachers in Kamrup District of Assam

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Abstract

The main objective of the research paper is to identify the challenges associated with multi-grade classrooms experienced by primary school teachers in terms of teaching-learning issues, issues related to the classroom environment and classroom management as well as issues related to children. The descriptive survey method is adopted in this paper and 20 primary school teachers were selected as a sample by applying the convenient sampling technique. A self-structured questionnaire was prepared by the investigator with three aspects: teaching-learning issues, issues related to the classroom environment and classroom management, and issues related to children. It is found from the study that primary school teachers face many pedagogical challenges during the process of teaching in a multi-grade classroom. The biggest difficulty comes in managing different classes at the same time.

Keywords: *Multi-grade Teaching Experiences, Primary School Teachers*

Introduction

"Education, education, education alone! Traveling through many cities in Europe and observing the comforts and education of even the poor people, that was brought to my mind the state of our poor people and I used to shed tears what made the difference? Education was the answer I got." This is sage Vivekananda's concern about education.

Being the foundation stone of human development, primary education plays a very significant role in a democratic system. The framers of the Constitution of India realized the value of primary education as long back as the 1950s and made a provision for free and compulsory education to all children up to the age of 14 years. Education up to this stage is regarded as general and basic education. We, in India, have a responsibility to achieve this task, not only as the largest democratic country

but also since our country accounts for 30% of the world's illiterate population. The linkage between educational levels, literacy, and development indices is well-known to all. Achieving the universalization of elementary education calls for dedicated efforts on the part of all the stakeholders but there are lots of challenges in our primary education system which hinder the development of primary education in our country. One such challenge is multi-grade teaching.

The National Education Policy, 2020 envisions a transformative shift in India's educational landscape. However, its implementation, particularly in multi-grade teaching environments, possesses unique challenges. The National Education Policy, 2020, with its focus on inclusive and equitable education, presents both opportunities and challenges for teachers in such situations. In multi-grade teaching, a teacher teaches two or more classes simultaneously at the same time. This situation is commonly seen at the primary level in our country. From shortage of teachers to lack of infrastructure, there are many reasons which give rise to these situations. In a normal primary school, the teacher usually faces a lot of difficulties. These difficulties become even more complex when the situation becomes multicameral. However, such teachers make a lot of effort on their part to improve the present situation, but until these efforts are not supported at the administrative level, the change in these circumstances becomes just a dilemma. These difficulties can be reduced for the teachers by giving them educational and administrative training in multi-room schools. By doing this, the level of learning of the students can also be improved.

Whenever we think about the quality of education, we will find that there are many such factors and aspects, which play an important role in influencing this quality. From the infrastructure available for education in the classroom environment and the availability of teachers are some of the important factors. Even though the form of every class looks similar from above, each class is special in itself and different from any other class. One of the biggest reasons for this variation is the way a teacher teaches in a class. It significantly affects the quality of education as well as the entire process of teaching. Teaching methods and their results are influenced by the situational factors of each class and consequently also differ. Availability of teachers, size of classroom, seating arrangement, regularity of children, etc. are some such reasons.

There is a huge lack of infrastructure available for education in our country. Therefore, to overcome this shortcoming, the idea of multi-grade teaching at the primary level is a common situation. In a multi-grade classroom, a teacher teaches two or more classes at the same time. The presence of a multi-grade classroom creates many challenges in the teaching process. The most important of these are the challenges related to teaching and learning. The concept of a simple primary school is that it should have a sufficient number of rooms and teachers to teach students up to class five. When there is any shortfall in such availability, there is every possibility of building a multi-chambered class. This situation is found in all those schools where either there is a shortage of teachers or there is no adequate arrangement for seating. If both conditions are found, the problem becomes more serious. To overcome the difficulty of multi-grade classrooms, all the stakeholders from top to bottom should be aware of this problem very seriously. Hence, the investigator tries to focus light on this emerging issue for its betterment.

Literature Review

There was extensive research done in the field of multi-grade classrooms and its related issues all over the globe. Some of them are mentioned below:

Nawab and Baig (2011) argue in their research paper that multi-grade courses have a positive impact on the teaching-learning practices of schools. However, the government has to play a key role in sustaining the implementation and impact of multi-grade course strategies.

Khazaei and others (2016) in their qualitative research found that the teachers face the following problems in multi-grade classrooms: lack of time, lack of students' motivation, academic failure, lack of proper class management, inappropriate age composition, lack of attention to students' individual needs, lack of educational facilities, lack of educational justice and inadequate authorities' support.

Idris (2020) found in the research that the major challenges in multi-grade teaching were related to teachers' knowledge and skills, pupils' abilities, and resources. Based on the analysis, it was suggested that continued support be provided to the schools in terms of the school leaders' management and leadership aspects.

Kalender and Erdem (2021) revealed from their research that the teachers were left alone in the multi-grade classrooms and had difficult times. It was determined

that they had problems in planning and executing the learning-teaching process, as well as ensuring classroom management. It was also revealed that having the duty of a principal teacher was a heavy burden for teachers and this duty led them to do all kinds of work at schools.

Bajpai and Pandey (2023) studied the challenges of multi-grade class teaching. This conceptual paper mainly highlighted both pros and cons of multi-grade teaching. It is revealed from the study that teaching in multi-grade classroom is always very challenging. These challenges can be intrinsic, extrinsic and also found in our system.

Recla and Potane (2023) conducted a systematic review study on teachers' challenges and practices in handling multi-grade classes. Ten (10) out of 800 studies were chosen based on inclusion and exclusion criteria. The synthesized data were analyzed using Clark and Braun's six-step thematic analysis and resulted in eight (8) themes, namely: (1) difficulty in managing the class, (2) lesson planning and individualized instruction, (3) time constraints and workload, (4) inadequate training and support, (5) insufficient resources and physical facilities, (6) differentiated instruction, (7) peer tutoring and collaborative activity, and (8) modular learning and technology integration. In conclusion, addressing the challenges faced by teachers in multi-grade classrooms requires a comprehensive approach that includes improving infrastructure, providing specialized training, adapting the curriculum, and fostering collaboration among stakeholders.

Despite the increasing interest in multi-grade teaching methodologies worldwide, there is a noticeable scarcity of research focused on the specific challenges faced by primary school teachers in rural and semi-urban districts of Assam, such as Kamrup. Furthermore, while several studies have explored the general benefits and drawbacks of multi-grade classrooms, there is a lack of comprehensive research addressing the unique contextual challenges that educators in Kamrup district encounter. Therefore, this study aims to fill this gap by providing an in-depth analysis of the challenges experienced by primary school teachers in Kamrup district, thereby contributing to the broader discourse on educational equity and teacher support in under-resourced regions.

Rationale of the Study

The implementation of the National Education Policy (NEP) 2020 marks a pivotal moment in the Indian education system, promising transformative changes aimed at fostering inclusivity, equity, and quality in education. However, the policy's impact on multi-grade teaching environments, particularly in rural and remote areas, remains an area that requires thorough examination. The rationale behind this study stems from the need to understand and address the unique challenges faced by primary school teachers in such settings, specifically in the Kamrup District of Assam. Kamrup District, like many other rural areas in India, faces significant educational disparities, with multi-grade teaching being a prevalent practice due to limited resources and varying student enrollments. These disparities can hinder the effective implementation of NEP 2020's ambitious goals. By focusing on this district, the study aims to shed light on the ground realities and provide a nuanced understanding of the specific challenges encountered by teachers. Multi-grade teaching demands a unique set of skills and approaches that are often not covered in traditional teacher training programmes. The NEP 2020 emphasizes the need for continuous professional development and capacity building for teachers. This study seeks to identify the gaps in current training programs and suggest targeted professional development initiatives that can better equip teachers to handle multi-grade classrooms.

Despite the prevalence of multi-grade teaching in rural India, there is a paucity of academic research focused on this aspect, particularly in the context of the NEP 2020. This study seeks to fill this gap by providing empirical data and analysis on the challenges and experiences of primary school teachers engaged in multi-grade teaching. The insights gained from this research will contribute to the broader academic discourse on educational practices and policies in India.

Objectives of the Study

The main objective of this research is to identify the challenges associated with multi-grade classrooms experienced by primary school teachers in terms of:

1. teaching-learning issues
2. issues related to the classroom environment and classroom management
3. issues related to children.

Methodology

1. **Selection of Research Method:** This research falls in the domain of descriptive survey research.
2. **Population and Sample:** All the primary schools having multi-grade classrooms in the Kamrup district of Assam constitute the population of this study. This research work was done in such schools, where teaching work is being done under a multi-room system. As it is not possible for the investigator to find out the total number of multi-grade school available in the selected area, hence the sample of the present study are selected by applying convenient sampling technique. The related information for this study is collected from 20 teachers of different schools in the South Kamrup area of the Kamrup district of Assam where they practiced multi-grade teaching.
3. **Research Tool Used:** For collecting necessary information from the sampled teachers, a self-structured questionnaire was prepared by the investigator. There were three aspects to this questionnaire. These were teaching-learning issues (8 statements), issues related to the classroom environment and classroom management (9 statements), and issues related to children (7 statements). With the help of this research tool, an attempt has been made to understand what types of interruptions are often faced by the teacher during the teaching-learning process in a multi-grade classroom.
4. **Statistical Treatment:** All the collected data were analyzed by applying percentages.

Findings

The collected data are analyzed theme-wise and findings are sorted out based on analyzed data in the following way:

Challenges related to teaching-learning:

To complete the process of teaching and learning, both teacher and student have an important role. However, due to excessive responsibilities on the teacher, the responsibility for the result of this process falls more on the teacher. With the help of this research tool, an attempt has been made to understand what types of interruptions are often faced by the teacher during the teaching-learning process in a multi-grade classroom.

Table 1

Teaching-Learning Challenges Experienced by the Teachers

Sl. No.	Statements	F	%
1	Children's comprehension ability is weak	9	45
2	No division of time for other classes	12	60
3	Disruption in teaching	13	65
4	Inadequate use of teaching material	11	55
5	Less attention to children with special needs	19	95
6	Distracting the teacher	9	45
7	Sudden change in classroom environment from other class to teaching	14	70
8	Excessive workload of teachers	17	85

It is revealed from Table 1 that 45% of teachers opined that multi-grade classroom teaching weakens the comprehensive ability of the children and distracts the teachers. Again 60% of teachers found that there is no division of time for other classes while teaching one class continuously. According to 65% of teachers, disruption in teaching occurs due to multi-grade classrooms. Also, 55% of the respondents stated that they are not able to use teaching material adequately in a multi-grade class. Again, 95% of the sample teachers viewed that they were not able to pay proper attention, especially to children with special needs. According to 70% of teachers opined that teaching the other class brings with it a sudden change in the classroom environment. There is a lot of workload among the teachers in multi-grade classrooms and 85% of the teachers put forward their point in this regard.

Challenges related to the classroom environment and classroom management

The classroom environment also has an essential place in the educational process just as the teaching-learning process is an important part of the entire educational process. All those factors which influence teaching-learning in the classroom in some way are part of this environment. An attempt can be made to understand how the classroom environment and its related issues create problems for teachers and students in a multi-grade classroom with the help of the following table.

Table 2
Issues Related to Classroom Environment and Classroom Management Experienced by the Teachers

Sl. No.	Statements	F	%
1	Fear of teachers among children	11	55
2	Paying less attention to other children in the presence of children with special needs	13	65
3	Classroom seating arrangement	10	50
4	Noise in the classroom	18	90
5	More emphasis on completion of course material	14	70
6	Dependency of class on the monitor	14	70
7	Difficulty in conducting activity-based learning	19	95
8	More attention to children of higher classes	16	80
9	Heavy workload	20	100

Table no. 2 shows that according to 55% of teachers, most children in a typical primary school are afraid of the teacher. Again 65% of the teachers opined that due to the presence of children with special needs, less attention is paid to other children in the class. 50% of teachers also believe that seating arrangement in a multi-grade classroom is an issue that is a major cause of disruption in the classroom. According to 90% of the teachers, the noise problem is also seen in the multi-grade classroom. Again 70% of the teachers opined that they give more emphasis on the completion of course materials as well and multi-grade classroom increases the teacher's dependence on the classroom monitor. 95% of teachers viewed that it is difficult to conduct activity-based learning in the classroom because children of different levels are together in the same class. Again, 80% of teachers believe that in a multi-grade class, more attention is given to the children in the higher classes. According to cent percent of teachers, when they teach more than one class at a time, then those teachers are burdened with excessive workload.

Challenges related to children

Like the challenges a teacher faces in teaching in a multi-grade classroom, children may also have to face some problems. From the following table, an attempt was made to know from the teachers what kind of problems children face in a multi-grade classroom.

Table 3

Challenges Related to Children

Sl. No.	Statements	F	%
1	Children busy with household chores	16	80
2	Lack of awareness about education among parents	16	80
3	Admission is open throughout the year	17	85
4	Sharing textbooks	9	45
5	Engaging in non-teaching tasks	10	50
6	Shortage of teachers	18	90
7	Disruption of teaching due to the sitting of children of different classes in the same place	17	85

From the above table, it is revealed that 80% of teachers believe that children are busy with household work and are not able to take full interest in their studies and the same percentage of teachers also said that parents lack awareness about the education of their children. Again, 85% of teachers stated that the children studying in the same class face difficulty due to the admission being open throughout the year, and the sitting of children from different classes at the same place disrupts teaching. According to 45% of teachers, the sharing of textbooks by children is a problem in multi-grade classrooms. Also, 50% of the teachers felt that due to the preoccupation of teachers with non-teaching tasks, the availability of teachers for children is reduced, thereby limiting the access of students and teachers to each other. At the same time, 90% of teachers also believe that children have to face various problems due to the absence of full-time teachers.

Discussion

The above findings of the present research give a clear picture of the challenges faced by teachers in a multi-grade classroom. Primary school teachers face many pedagogical challenges during the process of teaching-learning in a multi-grade classroom. The biggest difficulty comes in managing different classes at the same time. Its direct effect is visible in the classroom environment and studies. Even in a normal school, it is a challenging task for teachers to manage school and complete non-academic work. In this context, if we talk about multi-grade schools, then this challenge increases even more.

In the process of this entire research work, several challenges related to multi-grade teaching came to the fore, which teachers working in these schools face on a day-to-day basis. However, teachers do different experiments on their part to solve these challenges, but these experiments are only temporary. The teachers also pointed out that the issues related to the management of multi-grade classrooms and their operations are hardly available in pre-service and in-service training.

Improving these conditions can only improve the quality of education. It can be started by giving proper training to teachers working in multi-grade classes, which can lead them to think creatively and positively about all these problems. Along with this, it may also be beneficial to think about how to promote integrated learning in these multi-grade classes so that it becomes a bit manageable for teachers to teach and handle different classes at the same time.

There are many different situations and challenges in primary schools, from management to teaching. Multi-grade classrooms and schools are also a part of this education system. If we talk about improvement or change in primary education as a whole, then we have to find a permanent solution to the problems by taking this multi-grade classroom and schools as well.

Conclusion

This research gives insight into the different challenges faced by primary school teachers in multi-grade classroom teaching. We always talked about the

quality of the education system. If we want to sustain the quality of school education, especially primary education, first of all, we must have to minimize the challenges faced by primary schools. One such challenge is the multi-grade classroom. At present time in our state, the multi-grade classroom problem has decreased drastically, but the problem is not abolished. Hence, all the stakeholders from top to bottom must take an active part in removing this problem.

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A Comprehensive Study on the Interplay between Mental Health and Academic Achievement among Secondary School Students

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Abstract

In the dynamic landscape of secondary education, the symbiotic relationship between academic achievement and mental health among students is a critical dimension that merits exploration. This article delves into the intricate interplay between the two, shedding light on how the mental well-being of secondary school students significantly influences their academic success. In the intricate tapestry of secondary education, the delicate balance between academic success and mental well-being plays a pivotal role in shaping the trajectories of young minds. As we unravel the threads connecting scholarly pursuits and psychological well-being, a comprehensive understanding emerges, shedding light on the challenges, coping mechanisms, and potential interventions that can enhance both scholastic accomplishments and mental resilience in the formative years of adolescence.

Key Words : *Academic Achievement, Mental Health, Adolescence*

Introduction

Learner achievement is taken for granted as the vital index of the learning outcome in formal education. Generally it is believed that attainment of high academic achievement performance is the major objective, of course the central focus, of formal educational efforts. Since learner achievement is of vital importance in formal education, the learners particularly at the school level, are very often found striving hard for securing high achievement scores in their subjects of study at the terminal examinations. The desire and struggle for attaining high academic achievement (scholastic achievement) by the learners put lots of pressure upon them, the teachers,

the school and the education system itself. The academic achievement of the learners is influenced by a host of factors, both intellectual and non-intellectual.

A number of studies have been conducted on correlates of learner achievement pertaining to cognitive variables (intellectual) and psycho-social variables (non-intellectual). Among the psycho-social variables the important ones are the learner's mental health, their study habits, attitude towards study, self-concept, anxiety, parental support and encouragement, home environment etc. The influence of psycho-social variables on academic achievement of the learners have not been adequately researched. However, the researchers conducted so far, have reported that such variables have their relative bearings on learner achievement. Researches conducted by Vyas (1992), Vani (1995), Sweta Sonali (2016), Senhlata (2017), Munni Kumari (2018), Patel and Chaudhari (2018), Jabagouda, Krishtappa & Chengti (2018), Kirsti et.al. (2019) have probed the relationship between some psycho-social variables and learners` academic achievement.

Today, it is widely experienced that the children's choice for a particular profession is mostly influenced and determined by their parent`s desire or decision irrespective of their own choice, interest, attitude, aptitude etc. Even in deciding the stream of study to be perused, the children in many cases are found to be guided fully by their parent's choice and decision rather than their own choice, aspiration and interest. This is perhaps the vital reason for which many children are found not performing well in their academic pursuits. As a result, the level of their academic achievements found not satisfactory. This common observation needs to be investigated thoroughly in order to find out to what extent the mental health of the students, their interest, attitude towards studies, etc. functions as predictors of their academic achievement. Of course, in Odisha there is dearth of research studies in this regard.

Conceptual Framework

"**Mental Health**" in this study refers to the state of their mental health in their study as well as with their social relationships.

"**Academic Achievement**" refers to the level of attainment of an individual or a group of individuals after completion of an academic programme. In the present study the term academic achievement refers to the academic attainment of the pupils in terms of the percentage of aggregate mark obtained by them individually at the last

School Annual Examination.

Review of Related Literature

Many studies have been conducted in India and abroad to find the relationship between mental health and academic achievement of secondary school students in relation to their gender and locality of the institution. Some of the findings directly related to the present studies are discussed in the following paragraph.

Kirsti et.al. (2019) examined associations' of mental distress with academic self-efficacy and study progress. Data was derived from the Norwegian Students' health and welfare survey 2014 (SHOT 2014) which is the first major survey comprising questions of both mental health, academic self-efficacy and psychosocial factors amongst students. Utilizing these data for a Norwegian region, we found that 749 (31%) of the 2430 Norwegian full-time students under the age of 35 responded to the survey. Logistic regression analyses were performed to assess the relationship between mental distress, academic self-efficacy, and academic performance. 17% percent reported severe symptoms of psychological distress which is similar to the overall prevalence among students in Norway. Students reporting severe mental distress were four times as likely to report low academic self-efficacy and twice as likely to report delayed study progress compared to students reporting few or moderate symptoms of mental distress. 27% of those reporting severe mental distress had sought professional help whereas 31% had considered seeking help. The study showed that there was a strong association between symptoms of mental distress, academic self-efficacy and study progress.

Krishnakar, Jabagouda, Krishtappa & Chengti (2018) examined the influence of Socio Economic Status and emotional intelligence on Mental Health of adolescents selected from Kalaburagi (Gulbarga) district, Karnataka state. The sample consists of 180 students. The objectives of the study include: (a) To Study the effect of SES on mental of adolescents sample, (b) To Study the effect of emotional intelligence on mental of adolescents sample, (c) To study gender difference in Mental Health. It was hypothesized that there would be effect of SES and EI on Mental Health of adolescents and there would be gender difference in Mental Health. There is a significant effect of SES on Mental Health of students: High SES adolescents have significantly higher Mental Health than Low SES adolescents. There is a significant impact of EI on Mental

Health of adolescents: High EI students have significantly higher Mental Health than Low EI adolescents.

Patel and Chaudhari (2018) compared the mental health status among south Gujarat urban and rural secondary school students. A total of 2160 boys were randomly selected; of which 1077 boys from city schools and 1083 boys from rural schools were taken into consideration. Mental Health Scale by Bhatt and Geeta was used to collect the data. Results showed that urban students had better mental health compared to rural students.

Munni Kumari (2018) made a preliminary attempt towards the study of academic anxiety in relation to mental health of 100 adolescent students (50 boys and 50 girls) of Faridabad city. Educational Anxiety Inventory by Vishal Sood and Arti Anand and Mental Health Battery by Arun Kumar Singh and Alpana Sen Gupta were admitted to subjects. Findings revealed that girls show more academic anxiety than boys; boys have better on their mental health and mental health and academic anxiety are negatively correlated.

Senhlata (2017) studied review the literature on academic stress among the secondary school students and present the causes and symptoms of stress as well as coping mechanism for stress. In order to overcome deviant behaviors, the parents play a constructive role in channelizing energies of the adolescents. Students should have the aspiration/expectation about their study, not beyond their capacities and abilities, Students need also proper counseling while selecting their courses at intermediate level. The parents should also consider the child's interest and aptitude and not impose on selecting the courses. The family environment should be congenial and the learning process should be made pleasurable and parents should avoid making it as a stressful event for adolescents. Author concludes that supportive and stimulating atmosphere is very necessary for the student to progress in their academic life and for reaching their aim or goal.

Sweta Sonali (2016) find out the impact of academic stress among adolescents with regards to gender, class and type of school organization. The study was delimited to students of class 11th and 12th of CBSE and BSEB affiliated two senior secondary schools of Samastipur (Bihar, India) viz. Holy Mission Senior Secondary School, Samastipur and Modal Senior Secondary School, Samastipur. A sample of 160 students was selected by simple random sampling method and Academic Stress

questionnaire developed by Md. Akram, Ilias Khan and Sabiha Baby was used as a tool for data collection. The finding revealed that no significant difference exists in the academic stress of students in relation to gender, while significant differences exist with regards to class and type of school organization. Students of class 12th of both CBSE and BSEB affiliated schools have more academic stress than that of 11th. Students studying in CBSE affiliated school have more academic stress than that of BSEB affiliated school. It was concluded that academic stress hasn't any impact upon gender while has significant impact upon class and type of school organization.

Vani (1995) conducted a study on sex, type of school, standard and mental health status of high school students. The objectives were to find out the role of sex, type of school and standard of mental health status of high school students. The sample of the study comprised 514 students, which included 271 boys and 243 girls, who were studying in classes VIII, IX and X of eight high schools in Tirupati, Andhra Pradessh. The major findings of the study were: girls had better mental status as compared to mental health status of boys of co-education schools; there was no significant difference in the mental health status of class X students was as low as compared to class IX students.

Vyas (1992) conducted a comparative study of the academic achievement of Schedule Caste (SCs) students in relation to self-concept and locus of control. She selected 400 cases of SCs and non SCs students of classes XI and XII. The results showed that the two groups differ significantly in terms of academic achievement but not in self-concept and locus of control.

Statement of the Problem

The problem is stated as **"A Comprehensive Study on the Interplay between Mental Health and Academic Achievement among Secondary School Students."**

Objectives

The present study has the following objectives:

1. To study the academic achievement of secondary school students with reference to gender and school-location variations.
2. To study the mental health of secondary school students with reference to gender and school-location variations.

3. To study the relationship between mental health and academic achievement of secondary school students with reference to gender and school location.

Hypotheses

H01 There is no difference between academic achievement of the secondary school students due to gender and school-location variations

H02 There is no difference in the level of their mental health irrespective of their gender and school-location variations

H03 There is no relationship between mental health and academic achievement of secondary school students irrespective of their gender and locale variations.

Method

In this study the researcher used the descriptive survey method.

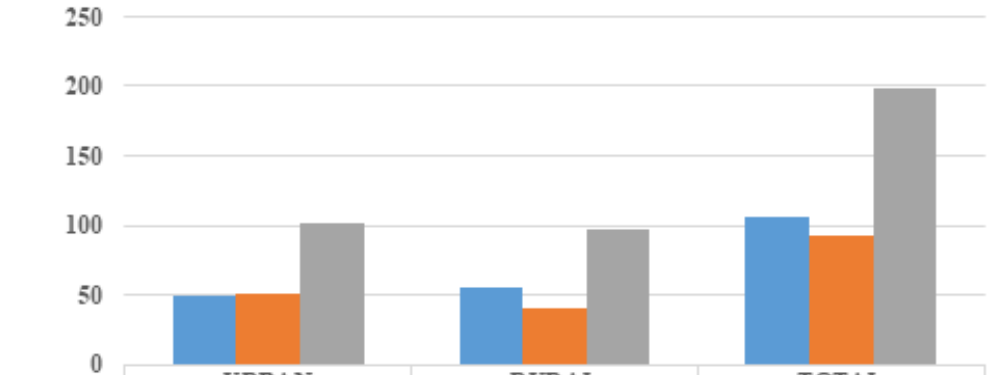
Population

The population in the present study comprises of secondary school students of Odisha. (Two Districts-Ganjam & Khordha)

Sample

The study's sample was chosen through a random sampling procedure. It comprises 198 secondary students (106 Boys & 92 Girls) from class IX, selected randomly from Ganjam & Khordha Districts. Four schools were chosen from each district, with two from urban and two from rural areas. The table below illustrates the distribution of the sample.

Distribution of the sample according to Gender & School location variation



	URBAN	RURAL	TOTAL
BOYS	50	56	106
GIRLS	51	41	92
TOTAL	101	97	198

Instruments/Tools

Two standardized tools were used in the present study.

1. For measuring Mental Health of students the "RCEB Mental Health Scale "by Dr. S. P. Anand, 1980, was used. (RCEB Mental Health scale developed by S.P. Anand (1980). The inventory consists of total 60 questions which are to be answered on a five point scale meant for senior secondary level children. Likert's technique has been used for the construction of the scale. Five responses categorizes as (1) Strongly Agree, (2) Agree, (3) Undecided, (4) Disagree and (5) Strongly Disagree with scores corresponding 4, 3, 2, 1, 0 for 20 positive questions and 0, 1, 2, 3, 4 for 40 negative questions. The minimum score is 0 and the maximum score is 240. Children scoring above 160 are said to be mentally healthy. The test-retest reliability was calculated to be 0.95. This is a self-administering test that may be given individually or in groups. Although there are no time limits, the respondents normally complete it within 40 minutes.)
2. For Academic Achievement, the last Annual examination marks of the students were taken in.

Statistical Technique

The researcher used Quantitative techniques for finding the results wherein the percentage, mean, S.D and t-test were used to analyse the data in the present study.

Analysis and Interpretation of Data

Table I

Estimation of Academic Achievement

Location of School		BOYS	GIRLS	TOTAL
Urban	N	50	51	101
	MEAN	69.5	66.16	67.82
	SD	10.80	12.19	19.60
Rural	N	56	41	97
	MEAN	58.43	61.70	60.94
	SD	16.00	14.60	15.80
Total	N	106	92	198
	MEAN	63.65	65.48	63.89
	SD	14.50	15.50	14.36

The table indicates that the mean achievement score of the total sample is 63.89. The mean achievement score of girl students 65.48 is greater than such score 63.65 of the boy students. In case of urban and rural students the mean achievement score of urban students 67.82 is greater than that of rural students 60.94.While the mean achievement score of urban boys is 69.05, it is 58.43 for rural boys. On the other hand such mean score of urban girls 66.16 is greater than that of rural girls 61.70. Thus as it appears from the mean achievement scores of the total sample, urban girls and boys have high achievement score compared to rural boys and girls.

Table II

Gender variation in the Academic Achievement

Gender	N	MEAN	SD	SED	"t"	'P'
Boys	106	63.65	14.5	2.14	0.86	Not significant
Girls	92	65.48	15.5			
Total	198	63.89	14.36			

The table reveals the significance of mean difference in achievement scores of boys and girls. The't' value of 0.86 indicates that there is no significant difference in academic achievement between boys and girls. Hence, the null hypothesis i.e

"there is no gender difference in academic achievement of secondary school students" is retained. Such a result tends to presume that both boys and girls compete with other in their academic pursuits and have almost same level of academic achievement of the secondary level.

TABLE III

School location variation in the Academic Achievement

Location	N	MEAN	SD	SED	"t"	'P'
Urban	101	67.82	19.60	2.52	2.73	Significant at
Rural	97	60.94	15.80			0.01 level
Total	198	63.89	14.36			

In the view of mean difference in academic achievement scores between urban and rural students, it is indicated that there is a significant difference in the achievement scores between urban and rural students, the 't' value being 2.73 which is significant at 0.01 level.

This result tends to interpret that the urban students may get ample facilities and scope for their studies as compared to rural students. Besides, other support, facilities for academic improvement of students is relatively plenty available in urban areas that might be facilitating the academic performance and achievement of the urban students.

Thus, the null hypothesis i.e. "there is no difference in academic achievement of rural and urban secondary school students" is rejected.

Table IV

Estimation of Mental Health

Location Of School		Boys	Girls	Total
Urban	N	50	51	101
	MEAN	153.30	161.65	147.52
	SD	28.40	29.50	29.30
Rural	N	56	41	97
	MEAN	148.78	159.26	150.92
	SD	26.10	26.70	27.35
Total	N	106	92	198
	MEAN	150.92	160.58	155.41
	SD	27.35	26.68	27.06

It is revealed from the table that the Mean Mental Health score of the total sample is 155.41. The Mean Mental Health score of girl students 160.58 is more as compared to both boys as well as total i.e 150.92 and 155.41 respectively. In case of urban and rural students the Mean Mental health score of urban students 147.50 is less than that of rural students 150.92.While the Mean achievement score of urban boys is 153.30, it is 148.78 for rural boys. On the other hand such Mean score of urban girls 161.65 is less than that of rural girls 159.26.

Thus as it appears from the Mean Mental Health scores of the total sample, rural girls and boys have high Mental Health score compared to urban boys and girls. This would be further evident from the gender and school location variation in the Mental Health of students, indicated in tables IV.(I) and IV.(II) below.

Table IV. (I)

Gender variation in the Mental Health.

Gender	N	MEAN	SD	SED	"t"	'P'
Boys	106	150.92	27.35	3.84	2.51	Significant at 0.05 level
Girls	92	160.58	26.68			
Total	198	155.41	27.06			

The table reveals the significance of mean difference in Mental Health scores of boys and girls under the sample. The 't' value of 2.51 indicates that there is significant difference at 0.05 level in Mental health between boys and girls. Hence, the null hypothesis i.e " there is no gender difference in Mental Health of secondary school students" is rejected. Such a result tends to presume that both boys and girls have difference in Mental Health. This may be due to biological, social and psychological factors.

Table IV. (I)

School location variation in the Mental Health

Location	N	MEAN	SD	SED	"t"	'P'
Urban	101	147.52	29.30	3.83	1.48	Not Significant
Rural	97	153.22	24.5			
Total	198	155.41	27.06			

In the view of mean difference in Mental Health scores between urban and rural students, it is indicated in the table that- there is no significant difference in the Mental Health scores between urban and rural students. Thus, the null hypothesis i.e "there is no difference in Mental Health of rural and urban secondary school students" is retained.

Table V

Relationship between Mental Health & Academic Achievement.

	N	Mean	SD	SED	"t"	'P'
High & Average	49	70.11	12.84	2.26	2.35	Significant at 0.05 level
	99	64.79	13.18			
Average & Low	99	64.79	13.18	2.96	2.26	Significant at 0.05 level
	50	58.10	18.81			
High & Low	49	7.11	12.84	3.22	3.72	Significant at 0.05 level
	50	58.10	18.81			

The table indicates that the relationship between Mental Health and Academic Achievement and its variation with high, average and low Mental Health groups. We found a positive relationship between high and average, average and low and high and low mental health groups. It shows that students having high score in mental health have high score in academic achievements and same with average and low groups. The "t" value of all three groups i.e. 2.35, 2.26, and 3.22 indicates that it is significant at 0.05 level in high &average, average & low and high & low mental health groups respectively. Therefore the null hypothesis "there is no significant relation between mental health and academic achievement of the secondary school students irrespective of their gender and location of school" is rejected.

Major Findings

Learner's academic achievement

1. Urban boys and girls have comparatively Higher Academic achievement scores than boys and girls of rural region. This indicates the existence of school location variation in Academic achievement of secondary school learners.
2. Gender variation in respect of academic achievement of secondary school learners is almost negligible although it just slightly favors the girl.

Learners' Mental Health

1. Gender difference in respect of Mental Health of the secondary school learners is prominent in favour of the girls.
2. Secondary school learners do not have difference in their Mental Health status due to their school location variation.

Relationship between Mental Health and Academic achievement of the learners

There is a significant relationship between students' Mental Health and their Academic achievement at the secondary level. That means higher the level of Mental Health, higher the Academic achievement of the secondary school learners. Conversely lower the level of Mental Health, lower is the Academic achievement of the learners.

Implications

The implications arising from the study's results primarily pertain to Ganjam and Khordha districts.

1. In view of school location variation in academic achievement of the school learners, disfavoring the rural learners, school heads and teachers of rural schools need to take appropriate steps for academic improvement of the secondary school learners.
2. Although, there is no statistical significant difference between boys and girls in respect of their academic achievements still boys appear to be relatively low achievers than girls. Therefore, academic improvements of the boys need to be taken care by the teachers.
3. In view of the gender variation in Mental Health it is noticed that there is a significant difference in the Mental Health between boys and girls. So programs and activities should conducted specifically for boys for improving their Mental Health.

Conclusion

In conclusion, the findings of this study highlight several implications primarily relevant to Ganjam and Khordha districts:

The academic gap between rural and urban learners, especially disadvantaging rural students, calls for targeted interventions by rural school administrators and educators to enhance secondary school learners' academic performance. Although there's no statistically significant difference in academic achievement between boys and girls, boys generally trail behind girls. Hence, educators should tailor strategies to address boys' specific academic needs, ensuring their success. The significant gender disparity in mental health emphasizes the importance of tailored programs, especially for boys, to improve mental well-being. Educational institutions and stakeholders must

prioritize initiatives addressing male students' mental health needs, fostering overall well-being and resilience.

In light of these implications, concerted efforts from educators, school administrators, and policymakers are necessary to address the identified challenges and ensure the holistic development and academic success of secondary school learners in Ganjam and Khordha districts.

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Construction and Standardization of an Achievement Test in Mathematics for Class-V Students under Elementary Education, Assam

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Abstract

This study has been undertaken to construct and standardize an achievement test in Mathematics for class-v students. Theoretical and empirical literature related to the study was reviewed. The study adopted descriptive survey method. Total 40 students from 3 lower primary schools from Kamrup (M) district were selected as participants/sample for the study using purposive sampling technique. For developing the test, at first 50 items were prepared by the researcher tentatively and all the 50 items were discussed and examined by the researcher and consulted with other experts in the field of test construction for constructive suggestions. After getting constructive suggestions from the experts, the researcher modified 5 items of the test. On the basis of Difficulty Value (DV) and Discriminating Power (DP), 30 items were finalized for the final draft of the achievement test. It was found that most of the items were falling in acceptable range of difficulty and discrimination level, however some items were rejected due to their poor discrimination indices and difficulty levels recorded. The coefficient of correlation of the test was estimated by using test-retest method and the reliability of the test of was found 0.79 which indicates a strong relationship. The validity of the test was estimated through the use of expert judgment and content validity method. The test can be considered as highly reliable and valid and can use to assess the students of class-V under elementary education, Assam.

Keywords: *Achievement Test, Mathematics, Standardization, Class-V*

Introduction

The most important methods for evaluating pupils' academic performance and IQ are achievement tests. It aids in assessing the success of instructional strategies (Kumar, 2016). In another definition, achievement is the information obtained or

ability developed in academic topics, which is often determined by test results and teacher-assigned grades. The development of high-quality, accessible achievement test requires substantial knowledge of content area-such as mathematics, language arts, or science- and the design of test items that are fair and valid measures of important knowledge and skills in a given content area (Elliott, 2017). A standardized test is one for which the material has been chosen and experimentally validated, standards have been established, consistent procedures of administration and scoring have been designed, and it can be scored with a high degree of objectivity (Good, 1973). Achievement constitutes an individual's learning attainments, his or her accomplishments, success, and proficiency, and it denotes what an individual has achieved after the specific instruction has been imparted (Anastasi, 1968). A test of educational achievement is one designed to measure knowledge, understanding, or skills in a specified subject or group of subjects (Freeman, 1962, p. 490). These tests do not only measure the volume of information assimilated or the skills and techniques developed, but also measure educational outcomes such as attitudes and appreciations and the ability to solve problems, draw inferences from subject matters, and apply generalisations to particular situations (Freeman, 1962). A well-designed, valid, and reliable assessment tool aids in the planning of curriculum and the development of appropriate instructional strategies, monitors instructional progress, allows instructors to understand what students learn in a particular course, and provides students with necessary feedback (Singh, 2008; Knight, 2010; Sharma & Poonam, 2017; Aggarwal, 2018; Sharma & Sarita, 2018). It assesses the effectiveness of teachers and evaluates the efficacy of various teaching approaches in a controlled environment.

Rationale of the study

The elementary stage in formal education system is very crucial. It is the foundational level of the students' entire life. According to NEP 2020, 5+3+3+4 structure has been adopted and according to this primary education covers the foundational and preparatory stage where preparatory stage covers from class 3 to class 5. We are surrounded by mathematics, and it plays a significant part in our daily lives. By any standard, mathematics is a science and is utilised by all other disciplines, including physics, chemistry, engineering, and medicine (Jayanthi, 2014). Because it

opens up additional academic and/or professional prospects, mathematics is a crucial topic in the classroom (Akinsola &Tella, 2003). Despite being one of the required courses in the school curriculum, mathematics failure rates are quite concerning. So, to assess the students with an appropriate tool is utmost important. This Achievement Test is an endeavour to meet this objective. A highly reliable and valid test is very essential specially for the class-v students of elementary education, Assam. The study is very significant in the context of assessing the students properly.

Operational Definition of the Keywords

Achievement Test: A test of educational achievement is one designed to measure knowledge, understanding, or skills in a specified subject or group of subjects (Freeman, 1962, p. 490)

Mathematics: Mathematics is a subject of numbers, shapes, data, measurements and also logical activities. It has a huge scope in every field of our life, such as medicine, engineering, finance, natural science, economics, etc.

Standardize Test: A standardised test is a test for which content has been selected and checked empirically, for which norms have been established, for which uniform methods of administering and scoring have been developed and which may be scored with a high degree of objectivity (C.V. Good)

Class-V: Preparatory stage covers from class 3 to class 5 where incorporation of light text books and formal but interactive classroom learning to lay a solid base across subjects with focus on reading, writing, physical education, speaking, art, languages, mathematics and science (NEP-2020)

Objectives of the study

Major objectives

1. To construct and standardize an achievement test in mathematics for class-V students

Sub-objectives

1. To determine the discriminating index of test items
2. To determine the difficulty level of test items
3. To determine the content validity of the test items

4. To determine the reliability of the test

Delimitation

1. The study is delimited to only students of Kamrup (M) District
2. The study is delimited to the students of Lower Primary Schools
3. The study is delimited to the achievement of Class-V students studying in lower primary school of Kamrup (M) District

Review of Related Literature

Joyanthi (2014) had conducted a study on "Development of validation of an achievement test in mathematics for high school students for class X". The investigator had developed a multiple-choice test of 150 items for class X mathematics syllabus. Then the test was administrated on 327 students of 5 schools of Chennai district. The facility index and discrimination index values calculated used in final item analysis and finally 78 items were selected for final tryout. The reliability coefficient was calculated and found 0.888 and validity coefficient as 0.942. The item total reliability coefficient and validity coefficient value were found to be highly correlated and valid. The Cronbach's Alpha was found as 0.888.

Singh (2015) conducted a study on "Construction and standardization of an achievement test of mathematics for ninth grade students". This paper reveals the details of the construction and standardization of achievement test in Mathematics from 9 class Punjab School Education Board (P.S.E.B). The Test initially consists of 95 items. After review and evaluation of statements by the experts, items were reduced to 90. After item analysis, 72 items were retained in the final draft of the test. The split half reliability of the scale was found to be 0.79. For validity, face validity and content validity were calculated and test was found to be valid.

Rani & Anisha (2017) conducted a study on "Construction and Standardization of Mathematics Achievement Test for IXth Grade Students". In this study the pilot testing was done on a sample of forty IXth grade students, selected on the basis of purposive sampling. After first try out of the mathematics achievement test was given and administered on another group of 40 students of IXth class. Same process of

first try out was followed for finding difficulty value and discriminating index. The reliability coefficient between two ratings was found to be 0.86. The reliability of the tool was estimated by test-retest method. The tool was administered and repeated on the same group of 40 students after a time interval of 4 weeks. Coefficient of correlation was computed between the first and second set of scores. The reliability coefficient between two ratings was found to be 0.84.

Kumar (2019) developed a study construction and standardization of an achievement test in mathematics for class ix students in Ludhiana. The study examined the construction and standardization of an achievement test in mathematics for class ix students. In the present study, keeping the limited source of time and money only 50 school students of Ludhiana district was randomly selected. A blue print was prepared for all the contents of class IX C.B.S.E mathematics text books. Multiple test items were constructed and expert opinions were taken. The preliminary draft was conducted on a sample of 100 C.B.S.E. students of class IX. Item analysis was done by Kelley's (1939) to find poor items. After revising and discarding poor items final draft was prepared. Reliability of the test by Split-half Method was 0.78 and validity calculated by comparing the test marks with school marks was 0.89. Norms of test via percentage norms was also calculated.

Mehar and Kaur (2019) conducted a study on "Construction and Standardization of Achievement Test in Mathematics". The paper presents the details of the development and standardization of achievement test in Mathematics for IX class under Central Board of Secondary Education, New Delhi. The preliminary draft of criterion referenced test initially consisted of 106 items were prepared. The items were retaining 68 items for the second draft of achievement test in mathematics. After try out of 56 students of class 10th studying in Ajanta Public School,Basant Avenue, Amritsar. The same above criteria were adopted for item analysis for the second draft of achievement test. After item analysis of the second draft of achievement test in mathematics, the 52 items were retaining for the final draft of achievement test in mathematics. The reliability of final draft of achievement test was conducted on sample of 40 students of class 10th studying in Manav Public School, Anand Avenue, Amritsar. The test- retest reliability of the measure of achievement test was found

0.81. The Validity was established by content validity method.

Chourasia, Kanade & Supriya (2020) conducted a study on "Construction and standardization of an achievement test in mathematics" The study was conducted to construct and standardize an Achievement test in Mathematics for VIII grade students to measure their achievement. In the study multiple choice questions (MCQ) type Mathematics Achievement test is constructing according to the blue print. The Construction of test items is an important phase in the development of a test as the reliability; validity of the test depends upon the test items. It is a pre-pilot study. The test consisted of 25 items covering all aspects of text-book of standard VIII prescribed by Maharashtra Board, after doing item analysis, 10 items were retained in the final draft of the test. Reliability was calculated by split half method of reliability and value of coefficient of correlation was found to be 0.99. Validity of the achievement test was established by content validity method.

Chakravarthi & Srinivasan (2020) have developed a study on "Construction and standardization of achievement test in mathematics". The investigators have developed Achievement Test in Mathematics (ATM) with 63 questions and 4 were removed based the subject expert suggestions. The questions have multiple choice answers and it has defined answer and so item analysis is computed with discrimination power and difficult index. After item analysis 50 questions were retained for final draft Achievement test in mathematics. The Adjustment scale has face validity and the reliability of the test is 0.79 which was found by using Spearman-Brown Formula. The Norm of the Achievement Test in Mathematics (ATM) has been established.

Bano & Khan (2021) has conducted a study on "Development of Valid and Reliable Mathematics Achievement Test". In the study the sample consisted of 80 students of Grade 7th, studying in two sections of an urban public sector school. Data of mathematics test scores were collected in two phases of pilot study. Two evaluation tools requiring SMEs (subject- matter experts) to rate test items on their alignment with ILOs of NCM 2006 and levels of Blooms Taxonomy, were also used to collect data for calculating content and construct validity. Item analysis was used for finding discrimination power and Cronbach Alpha used to calculate reliability value. The test is found moderate to highly reliable (0.79), content perfectly aligned (86.65 %

of test items) with curriculum ILOs and well matched (K= 41.66 %, Com= 36.66 %, App= 21.68 %) with levels of Blooms Taxonomy and possesses good power of discrimination.

(Reasonably good=78 % test items, DI values 0.4-0.3, Marginally good=18 % test items, DI values 0.2-0.29).

Methodology

Method

Descriptive survey method was used for this study. Investigator collected data by conducting the test of multiple-choice questions without changing the situation.

Population

The population of the present study includes all the students of Class-V of Kamrup (M) District

Sample and Sampling

In the present study, 3 lower primary schools from Kamrup (M) were selected purposively and 40 students from the schools were selected by using incidental sampling technique.

Name of the Lower Primary Schools used for administration of the Achievement Test: Rajabari L.P School, Chapaidang L.P. School, Tintukura L.P. School.

Construction of Achievement Test

Planning of the Test

Planning of the test is a first and very important step in the construction of an achievement test. In this test, investigator opted mathematics textbook of class-v under SCERT for the preparation of the test. In the achievement test investigator had decided to prepare multiple choice objective type items. After this a blue print was prepared keeping in view the content area and objectives of learning as per Revised Bloom's taxonomy 2001 of educational objectives.

Objectives of the test

Objectives of the achievement test were defined in behavioural terms focusing on knowledge, understanding, application from seven units of mathematics text book of class-V prescribed by SCERT.

Table 1

Distribution of Weightage to objectives from revised Bloom's taxonomy

Objectives	Weightage	Percentage
Remembering	12	24
Understanding	25	50
Application	13	16
Total	50	100

Content of the Test

Table 2

Selected content and weightage for the Test

Sl. No.	Content	Weightage	Percentage
1	Numbers and Operations	6	12
2	Angle	4	16
3	Area and Perimeter	11	14
4	Multiple and Factors	7	14
5	Three Dimensional and Two Dimensional Objects	8	16
6	Divisions	5	16
7	Fraction and Decimal Fraction	9	12
Total		50	100

Preparation of blue print

Blue print is very important phase of planning of test which provides a path for writing items for preliminary draft. Here investigator put various types of questions in blue print and distribute the questions according to their cognitive level.

Table 3

Blueprint of the Test

Sl. No.	Content	Remembering	Understanding	Application	Total
1	Numbers and Operations	1	5		6
2	Angle		4		4
3	Area and Perimeter	3		8	11
4	Multiple and Factors	2	5		7
5	Three Dimensional and Two Dimensional Objects	4	4		8
6	Divisions	1	3	1	5
7	Fraction and Decimal Fraction	1	4	4	9
	Total				**50**

Preparation of the test

The task of preparation of an achievement test includes Item-writing, checking by subject experts and item- editing. All the test items were reviewed by subject experts. As a prerogative, the items were sent to few subject experts for their suggestions and feedback. The tests items were finalized considering their inputs on the content, types of questions and format. After getting criticism and suggestions from the experts' 5 items have been modified.

Administration of the Test

First try out

After modification of the achievement test on the basis of the experts' suggestions, the pilot testing was done on a sample of 40 class-v students. The test was conducted in congenial environment and follows all rules and regulations of an

examination.

Item Analysis

After scoring the test items, item analysis was carried out two kinds of information namely difficulty level and discriminating power of items were computed. It was done to find the ambiguous, ineffectiveness and any technical flows and provide information for improving test items. The final selection of the items was made on the basis of difficulty value and discrimination index of each item. Item analysis consisted of the following steps:

1. Answer score sheets were arranged in order from the higher score to lowest score.
2. The upper 27% of the total answer sheets i.e., 11 with the highest scores were selected and named "Upper group" and the lowest 27% answer sheet with the lowest scores were named as "Lowest group".

Discriminating Index

The index of discrimination of each item was calculated by using the formula

$$V = (R_u/N_u) - (R_l/N_l)$$

where V represents the net discriminating index of each item, R_u represents the number of the examinees giving the responses correctly in the upper group, R_l is the number of examinees giving the responses correctly in the lower group, $N_u$represent the number of examinees in the upper group, N_l is the number of examinees in the lower group.

Difficulty level of the items

The formula for determining the index of each item is given below:

$$p = (R_u + R_l) / (N_u + N_l)$$

where p is the index of difficulty, R_u represents the number of the examinees giving the responses correctly in the upper group, R_l is the number of examinees giving the responses correctly in the lower group, N_u represents the number of examinees in the upper group and N_l is the number of examinees in the lower group.

Findings

List of good items for the final draft by following Difficulty value (Kelley's 1939) and Discrimination Index (Ebel's 1979).

Table 4

Distribution of difficulty value (D.V) of items of the first draft of achievement test

Level of difficulty value	Items	Total	Remarks
High (≤0.19)	3,7,8,20,28,33,34,43,46,47,48	11	Rejected
Medium (0.20-0.75)	1,2,4,5,6,9,10,11,13,14,15,16,17,18,19,21,22,23,24,25,29,30,31,35,36,37,38,41,44,45	30	Accepted
Low (≥0.75)	12,26,27,32,39,40,42,49,50	9	Rejected
Total		50	

Table 5

Distribution of discrimination indices of items of first draft of achievement test

Discriminating Power (D.P)	Items	Total	Remarks
0.40 and above	**1,2,4,5,6,9,10,11,13,14,15,16,17,18,19,21,22,23,24,25,29,30,31,35,36,37**	**26**	**Very Good items**
0.30-0.39	**38,41,44,45**	**4**	**Reasonably Good items**
0.20-0.29	**12,26,27,32,39,40**	**6**	**Need Improvement**
0.19 and below	**3,7,8,20,28,33,34,43,46,47,48,42,49,50**	**14**	**Very Poor items**
Total		**50**	

Table 6

Final Draft of Achievement Test

Level of difficulty	Medium (0.20-0.75)	Total	Remark
Discrimination Index			
0.40 and above	1, 2, 4, 5, 6, 9, 10, 11, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25, 29, 30, 31, 35, 36, 37, 38, 41, 44, 45	30	Very good items

Standardization of the Test

Reliability of the Test

A test must be reliable, that is, it must have the ability to consistently yield the same results when repeated measurements are taken of the same individuals under the same conditions (Koul, L. 2020). There are several methods such as test retest, split- half, alternate form and parallel form etc. In the present research the reliability of the test was measured by test-retest method. The test was administered to a group of students and was re-administered to the same group of students after fifteen days and two sets of scores were correlated. The reliability co-efficient of the present test was 0.79. This shows that achievement test has high reliability.

Validity of the Test

A test is valid if it measures what it claims to measure. A test, however, does not possess universal and eternal validity. It may be valid for use in one situation but invalid if used in another (Koul. L. 2020). In this study, content validity method was adopted to establish validity. For this purpose, four subject experts in this field have checked the distribution of content and objectives of the study rigorously. The experts consented on the distribution of content, objective of content as well as with the scoring procedure. In this way, validity was established for the present study.

Conclusion

Achievement test is the test which measures the amount of learning of student after completing a particular learning program. The intention of the study was to prepare a reliable and valid test. It was suitably planned by keeping all the objectives and purposes in mind when constructing the test. With the help of Discriminating

Index and Levels of Difficulty, 30 items were finalized for the final draft. The test-retest method was used to establish reliability and expert's judgments were used to check validity. The coefficient of correlation was found 0.79 which indicates a strong relationship. The test is highly reliable and valid. This achievement test can be used for the students of class-V under elementary education, Assam.

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Challenges of STEM education in the Secondary Schools of Kamrup (M), Assam

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Abstract

This study discovers the role of innovative teaching and learning material (TLM) that boosts Science, Technology, Engineering, and Mathematics among the selected secondary schools within the Kamrup (M) district of Assam. As technological innovations become increasingly popular, there is a high demand for skilled STEM educators. Enhanced teaching methods are required to foster students' activeness and understanding. In this study,5 principals,10 teachers and 20 students from 5 selected schools check various innovative TLMs for effectiveness in the STEM sector. So that educators can promote interdisciplinary approaches in the STEM section. With the help of surveys, qualitative methods, and interviews with teachers and students, the researcher discovers the best practices and the issues to implement these materials. The study highlights advanced TLM's bright side on student learning outcomes, complex thinking abilities and collaborative learning experiences. Additionally, this study reviews the significance of the current proficient development for educators to infuse these resources into their classes successfully. Findings provide an extensive discussion on refining STEM education in Kamrup (M), Assam, by delivering functional perception and recommendations for educators and policymakers to improve the teaching practices and the student's achievements in STEM.

Keywords: *Innovation, STEM education, Secondary school, TLM*

Introduction

STEM education has played a prominent role in the development of modern education because it helps students cope with the crucial demands of the contemporary educational age. The core objective of STEM education is to highlight critical points that are more advanced than traditional approaches. As per the 2011 census report, Kamrup (M) has a population of 1.26 million and a literacy rate of 71% (Kamrup Metropolitan District). This district's demographic vividness includes challenges

and opportunities for infusing STEM education strategies. STEM education has become more popular in the past year, transitioning from the simple form to the focus on enquiry based on real-world situations. Worldwide, most countries invest in and promote STEM curriculums to increase students' abilities in science and technology (Becker & Park, 2011). Quality teaching methods in the classroom have produced amazing learning results among pupils. These tools help students participate actively and collaborate, boosting their critical thinking ability to achieve respected positions in the field of STEM (Hattie, J.,2008). Manifolded procedures used in STEM education include knowledge from many disciplines and encourage a holistic insight into compound issues. It allows pupils to solve their complex queries by involving critical points from the diverse fields of STEM (Beers, S.,2011). Challenges and opportunities are not common when using STEM education approaches and understanding. Assam has taken many steps to support STEM education in the state. It includes teacher training, developing a curriculum based on enquiry, and providing resources and materials for teaching and practice. They are like STEM Learning's CSR initiative (CSR in Assam | STEM Learning Stands with Assam, 2022), Teacher Training by IIT, Guwahati, and Mind in Training for Right Awareness (MITRA) STEM (Indian Institute of Technology Guwahati, n.d.-a) for Girl's programme.

Objectives of the study

1. To analyse teachers, students, and principals' challenges in promoting STEM in secondary schools.
2. To evaluate the effectiveness of existing government policies and initiatives in supporting STEM education.
3. To explore innovative TLM for effective STEM education.

Review of Literature

STEM education includes a solution that helps educators and pupils counter their complex challenges by teaching science, technology, engineering, and mathematics and highlighting professional uses (Karafyllis, 2015). Involvement of creative teaching methods in STEM education, like PBL and IBL, and the use of upgraded technology increase engagement and understanding among the pupils

(Das, G. C., 2021). It also expands complex thinking and creativity, but issues are associated with integrating coordination among educators and require more resources (Ivanitskaya et al.; R.,2002). Practical TLM assists in practical experiences that support theoretical ideas, which enhance students' engagement and retention (Bruner, J.,1966). Examples are interactive TLM of impressions in science classes that merge any scientific formula or theory or an art project that exhibits the correlates of history (Osei-Himah et al.; K.,2022). Due to limited resources and funding, teachers need help executing STEM education. The result is the shortest necessary materials and the proper teacher training (Schmidt et al.; R. T., 2007). Before merging STEM into the existing curriculum, teachers faced many issues addressing the diverse requirements of pupils' demands (Asghar et al.; G. M.,2012).

Methodology

This study uses qualitative and quantitative methods. The qualitative section helps the study find details of experiences' perspectives and perceptions. Quantitative analysis shares with the researcher a gist of statistical analysis of collected data to identify the connections and trends.

Table 1

Selected Five Secondary Schools for Sample collection

Sl. No.	No of participants	Name of the School	Destination
1	Schools=5 (convenience sampling) Principal=5 nos (1 for each school) Teacher=10 nos (1 male and 1 female teacher from each school for 5 selected schools) Students=20 (selected randomly)	Cotton Collegiate Govt. Higher Secondary School	Kamrup (M)
2		T.C. Govt. Girl's H.S. & M.P. School	
3		Gopal Boro Government Higher Secondary School	
4		Ulubari Higher Secondary School	
5		Kamrup Academy Higher Secondary School	

Table 2

Participants and their roles in STEM education

Participants	Key Skill	Explanation
STEM Teacher	Firm grasp of STEM subjects	Most importantly, correctly point out study- related challenges.
	Innovative teaching methods	Promote engagement and learning outcomes in STEM.
	Expertise in Teaching Learning Materials (TLM)	Provides interdisciplinary learning and practical applications
	Classroom management for STEM	Need an ecosystem for effective STEM education.
Student	Critical thinking and problem-solving skills	It helps tackle complex STEM-related issues.
	Collaboration and communication	The most essential aspect is promoting engagement and innovation.
	Active use of TLM	Enhances understanding and application of interdisciplinary concepts.
Principal	Leadership in STEM program implementation	It is essential to implement STEM initiatives in schools.
	Resource management (TLM & equipment)	Secure readiness so that resources can be appropriately used.
	Support for teacher development in STEM	It is highly required to help teachers counter the educators' challenges in implementing STEM education

Data Collection Methods

This study used convenient sampling to select five Kamrup (M) secondary schools. In this data sample, 1 principal from each selected school,2 teachers (1 male and 1 female), and 4 students were randomly selected for each school. Objective-aligned questionnaires were distributed to the teachers and students. The principals of these selected secondary schools were interviewed in detail.

Data Analysis Method

It includes:

1. Quantitative Analysis: This study was conducted using tools like MS Excel.
2. Qualitative Analysis: It is used on observational records and interview notes to point out periodic themes and insights connected to issues and inventions in STEM education.

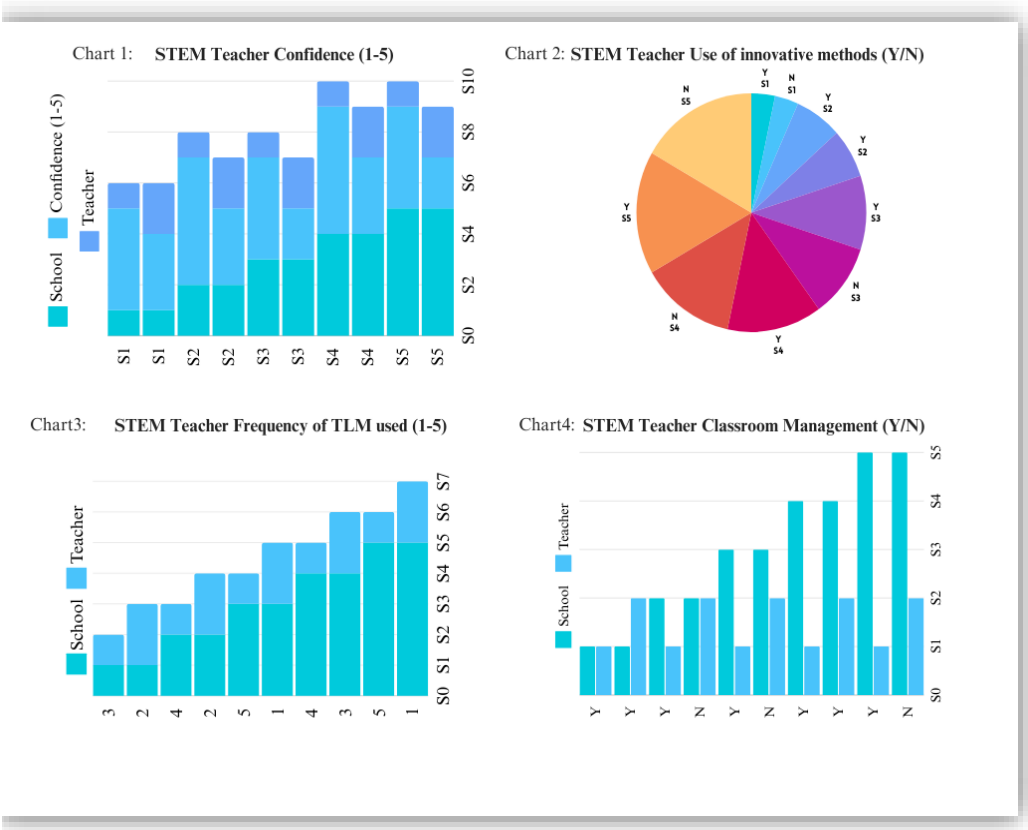
With the above-mentioned chronological order of methods, this study tries to find a workable result that helps to include STEM education in the Kamrup (M) district of Assam.

Findings and Discussion

Table 3

Data for STEM teachers

School	Teacher	Confidence level (1-5)	Use of innovative methods (Y/N)	Frequency of TLM used (1-5)	Classroom Management (Y/N)
S1	T1	4	Y	3	Y
	T2	3	N	2	Y
S2	T1	5	Y	4	Y
	T2	3	N	2	N
S3	T1	4	Y	5	Y
	T2	2	N	1	N
S4	T1	5	Y	4	Y
	T2	3	N	3	Y
S5	T1	4	Y	5	Y
	T2	2	N	1	N



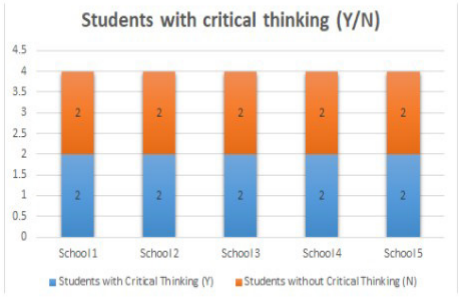
Analysis for table 3

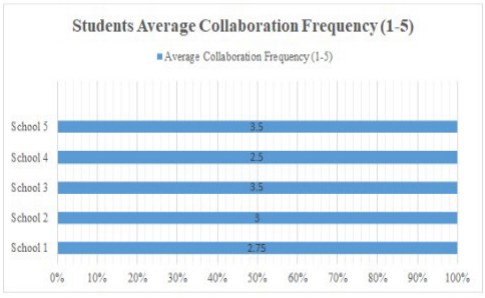
5 selected secondary schools (S1 to S5) regarding teachers' confidence levels in using TLM more innovatively and the frequency with which they use their classroom management practices. Here, T1 or T2 represents the teacher of each school, providing insight into the relationship between teacher features and practices. In the same way, the innovative methods section shows the teacher's confidence in using innovative methods, represented by Y, and the N represents the uses of traditional methods. In addition, teacher frequency shows how teachers can enhance teaching practices using advanced TLM. At last, indicators Y and N in classroom management show teachers' capability in that ecosystem.

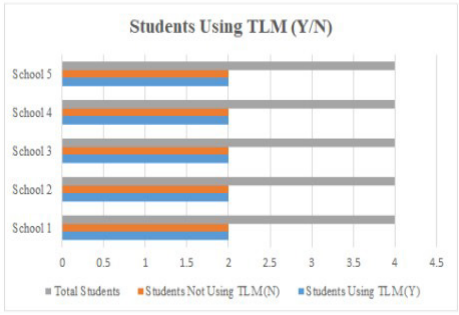
Table 4

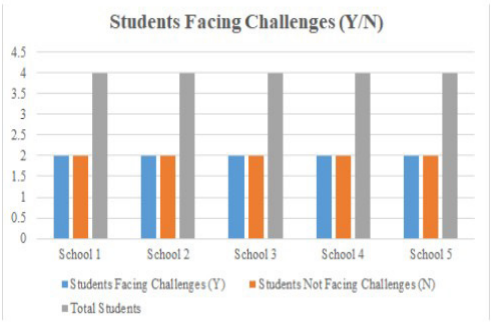
Data for Students

School	Student	Critical Thinking (Y/N)	Collaboration Frequency (1-5)	TLM Use (Y/N)	Challenges in STEM (Y/N)
S1	ST1	Y	3	Y	N
	ST2	N	2	N	Y
	ST3	Y	4	Y	N
	ST4	N	2	N	Y
S2	ST1	Y	5	Y	N
	ST2	N	1	N	Y
	ST3	Y	4	Y	N
	ST4	N	2	N	Y
S3	ST1	Y	4	Y	N
	ST2	N	3	N	Y
	ST3	Y	5	Y	N
	ST4	N	2	N	Y
S4	ST1	Y	3	Y	N
	ST2	N	1	N	Y
	ST3	Y	4	Y	N
	ST4	N	2	N	Y
S5	ST1	Y	4	Y	N
	ST2	N	3	N	Y
	ST3	Y	5	Y	N
	ST4	N	2	N	Y









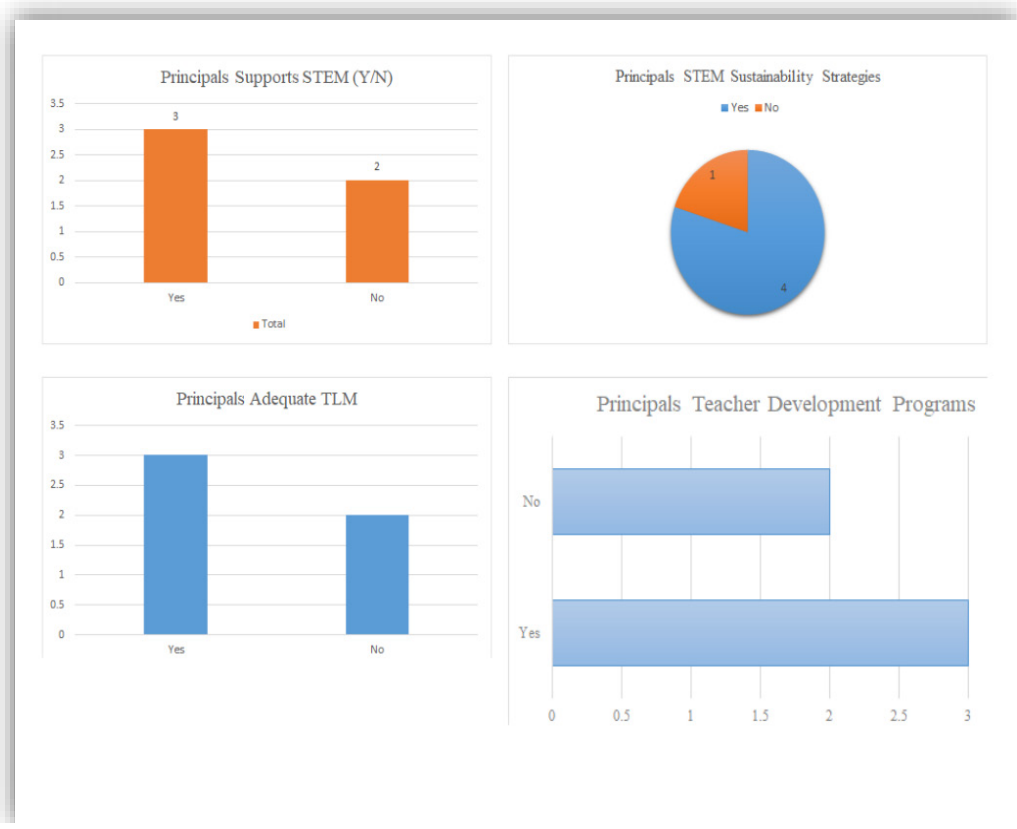
Analysis for table 4

Table 4 shows that half of the students could think critically. In contrast, the collaboration frequency section shows an average frequency of 3(1-5), and half of the students used TLM in their practices—however, 50% of the students counter challenges in STEM.

Table 5

Data for Principals (5 Schools and 5 Principals)

School	Principal	Support for STEM (Y/N)	STEM Sustainability Strategies (Y/N)	Adequate TLM (Y/N)	Teacher Development Programs (Y/N)
S1	P1	Y	Y	N	Y
S2	P2	N	Y	Y	N
S3	P3	Y	N	Y	Y
S4	P4	Y	Y	Y	N
S5	P5	N	Y	N	Y



Analysis for table 5

The above table shows that three principals in five schools are interested in STEM, whereas two are not. Four principals took the initiative to increase students' awareness of STEM education, while one did not. Three principals feel they have enough TLM, whereas two principals think there is scope for improvement. Three principals share information related to the teacher development programme, while the other two principals are unaware of development programmes for teachers.

Challenges and Barriers to Implementation

Institutional and Structural Challenges

1. It was found that not all the classrooms are connected to Wi-Fi.
2. The teacher's standard rooms are not fully connected to Wi-Fi with unlimited internet connectivity.
3. The libraries were disconnected from the teacher's and principal rooms.
4. There is a missing Broadcast system in the secondary schools.

Teacher Preparedness and Professional Development Needs

1. Handheld amplifiers are missing for teachers.
2. Still using the traditional teaching methods.
3. Lack of subject knowledge
4. Inadequate support system
5. High teacher turnover

Resource Limitations (e.g., TLM availability, technology)

1. Limited availability of TLM
2. Technology gaps and shortage
3. Delay in distribution
4. Infrastructure deficiencies

Recommendation

Based on this study, the below points are suggested:

1. Technology can be integrated into the classroom, teacher restroom, and library with quality internet and intranet connectivity.
2. Project-based learning.

3. Continuously develop teachers by providing training on new methodologies and innovations. SCERT Assam is already conducting hands-on activities related to this.
4. Prompt collaborations with the private sector or NGOs are required with host diversity (where the teachers can play a crucial role as hosts, which helps the teachers deal with the TLM).
5. A well-equipped library always plays a vital role in producing or encouraging STEM education in the secondary schools of Kamrup (M).
6. All the school rooms must be connected to the proper broadcast system; a broadcast system helps the principal deliver announcements that can be delivered seamlessly and instantly within the campus.
7. The teacher must be equipped with a voice amplifier system (centrally/ individually) so that by using them in the classroom, the teacher can reduce mechanical workload and increase their performance. This way, the attention graph remains consistent for a maximum period among the teacher and the students
8. To increase teachers' confidence when dealing with TLM, a pilot project must be introduced phase-wise to create content using a content creation module to promote STEM in secondary schools.

Conclusion

From the above study, it is found that plenty of schemes and projects are required to enhance and encourage the STEM education ecosystem in the districts of Kamrup (M). The government of Assam has already introduced many schemes and significant policy changes that NEP 2020, which has completely changed the ecosystem of Indian education. Schemes like Arohan, Smart Classroom, Nijut Moina, Saptadhara, Hackathon, BLISS, Atal Tinkering Lab, Maths and Science Olympiad, distribution of free bicycles to the BPL girls, waiving of admission fees, distribution of free textbooks, waiving of examination fees and the centre fees, Anundoram Baruah schemes for cash or free laptops, Vigyan Mela and Career counselling. Still, there is a significant concern because very few students have chosen the science stream as their primary and most needed stream for their future careers in the STEM field. As per last year's report, only 18.03% (48203 out of 267734 enrolments) chose science as their stream.

Compared to this data for 2021-22, only 11.52% of students have opted for science as their stream (K. Kalita, 2023). It is found that there is a slight variation towards science but still not a satisfactory result. So, on that note, the study found that more schemes are needed to encourage students before choosing science as their stream, and a continuous enhancement of teachers' problem-solving capacity and parents' involvement are the keys to the success of STEM education in the state.

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Status of Cluster Resource Centres (CRCs) and Block Resource Centres (BRCs) in Selected Districts of Assam: A Survey Study

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Abstract

The study aims to find out the existing status of the Cluster Resource Centres (CRCs) and Block Resource Centres (BRCs) in Assam. As the CRCs and BRCs play a significant role in providing quality school education and also the recommendations of the New Education Policy (NEP) 2020 emphasizes its importance, it is very much essential to study the existing status of these centres so that they function smoothly. The total sample for the study comprised 24 BRPs and 164 CRCCs from 10 Districts of Assam. The sample was selected by using purposive random sampling. Self-developed questionnaire was used to collect data. The obtained data were analysed using simple percentage and on basis of descriptive analysis. The findings of the study revealed that that except qualification of the coordinators, the other aspects need to be improved and upgraded for its smooth functioning. Improvement of its status will also help in achieving the aim of the National Education Policy 2020.

Keywords: *Block Resource Centres, Clusters Resource Centres, Assam, Survey Study*

Introduction

The Block Resource Centres and Cluster Resource Centres were created in the entire country to provide academic support and improve the quality of education in schools. The Block Resource Centres and Cluster Resource Centres were originally set up under the District Primary Education Programme (DPEP) and later expanded through Sarva Siksha Abhiyan (SSA) (Draft Report for Discussion, MHRD, 2011). The Block Resource Centres and Cluster Resource Centres were established under SSA to offer academic support to teachers and schools in each block of every district of the country. The CRCs work under the BRCs and there are number of schools under each CRCs. The number of CRCs per BRCs differs considerably from state

to state and district to district. Similarly, the number of schools also differs from CRC to CRC (Draft Report for Discussion, MHRD, 2011). As per new remapping, 4609 CRCs and 145 BRCs are functioning under Samagra Shiksha, Assam.

Rationale of the study

The National Education Policy 2020 (NEP 2020) summarises the vision of India's new education system. The policy aims to transform India's education system by 2021 where "10 + 2" structure will be replaced with "5+3+3+4" model in a school complex. There is an urgent need, in accordance with NEP, 2020, to operationalize the concept of School Complex/Cluster in the State. To operationalize this concept of School Complex/Cluster in the State, the BRCs and CRCs have a greater role to play in augmenting quality of education in the country and state in particular for which a well-equipped infrastructure with qualified manpower of these centres is most essential. Hence it is urgently required to know the present status of these functionaries so that it can play a magnificent role in achieving the aspirational goals of 21st century education.

Delimitation of the study

1. The area covered for the study was only ten districts of Assam.
2. It covers data for the period of 2018 to 2021 only.

Objectives of the study

To review the present status of CRCs and BRCs in the State of Assam.

Methodology

The present study demands the application of Descriptive Survey Method so that objective of the study could be accomplished.

Sample of the study

In the present study, purposive random sampling technique was used to select the sample and accordingly 10 Districts were selected randomly. The actual sample size of the present study comprises 24 BRPs and 164 CRCCs.

Tools for data collection

The information and data were collected through primary and secondary source of data. The primary data were collected through administrating the self-developed questionnaire for CRCCs and BRPs while the secondary data for the present study has been collected through various sources. They were

- SSA, Assam
- Shodhganga

Analysis and interpretation of data

On the basis of the analysis of the following tables, an attempt is made to review the present status of CRCs and BRCs in Assam –

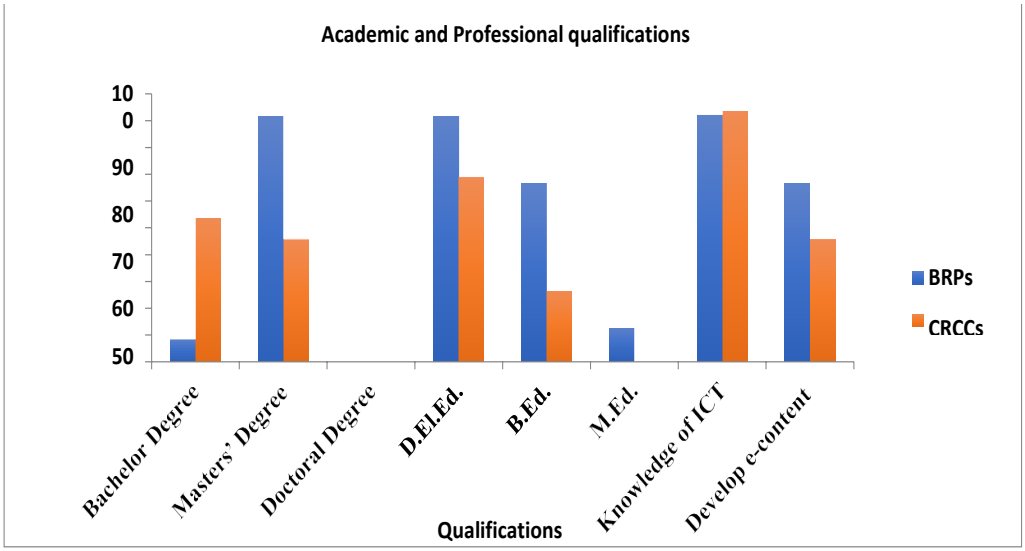
Table: 1

Academic and Professional Qualification of BRPs and CRCCs

Level	% of respondents	
	BRPs	CRCCs
Bachelor Degree	8.33	53.66
Masters' Degree	91.67	45.73
Doctoral Degree	0	0.61
D.El.Ed.	91.67	68.90
B.Ed.	66.67	26.21
M.Ed.	12.5	0.60
Having knowledge of ICT	91.67	93.29
Have developed e-content (Video/Audio/textual etc.)	66.67	45.73
Knowledge about Job Chart	41.66	29.87

Figure 1

Graphical representation of Academic and Professional Qualification of BRPs and CRCCs



Data from Table 1 and Figure 1 depict the status of academic and professional qualification of the BRPs and the CRCCs. It is found that that most of the BRPs (91.67%) were Post Graduate with D.El.Ed. 66.67% and 12.5% of BRPs had qualified B.Ed. and M.Ed course respectively. It is also found that most of the BRPs i.e. 91.67% had knowledge of ICT and of those 66.67% had developed e-content.

On the other hand, 53.66% of CRCCs were Graduates and 45.73% were Post Graduate. One CRCC was found to have Doctorate degree. 68.90% and 26.21% of CRCCs had D.El.Ed and B.ED degree respectively. The table also shed light on the aspect that majority of CRCCs had knowledge of ICT (93.29%) and of those 45.73% CRCCs had developed e-content.

From the descriptive analysis of the statement of the sampled BRPs and CRCCs, it was found that very less percentage of BRPs and CRCCs had knowledge about JOB CHART prescribed by Samagra Shiksha. Only 41.66% of BRPs and 29.87% of CRCCs had knowledge about JOB CHART prescribed by Samagra Shiksha.

It can be seen from the above discussion that though most of the BRPs were well qualified but they were not aware about their JOB CHART. In case of CRCCs also,

very minimal percentage were aware of their JOB CHART. This may be due to their ignorance or awareness of such concept or may be the collaboration of them with their authority is less or unplanned.

Table: 2

Infrastructural status of BRCs and CRCs

Building/Equipment	% of BRCs	% of CRCs
Staffroom	66.60	8.53
Computer	70.83	3.04
Laptop/Tablet	33.33	37.19
Internet Connectivity	12.50	11.58
Training Hall	20.83	3.04
Library	4.16	5.48
ICT Room	4.16	0.60

Table 2 shows the infrastructural status of BRCs and CRCs, where it was found that 66.60% of BRCs have staffroom, 70.83% have computer, 33.33% have Laptop/ tablet and 12.5% have Internet connectivity and 20.83% have Training Hall. But the facilities of Library and ICT Room were found to be very minimal (4.16%) in the respective BRCs.

On the other hand, it was observed that the infrastructural facilities of the CRCs were found to be low in comparison with the BRCs. Only 8.53% CRCs have staffroom, 37.19% have Laptop/Tablet, 11.58% have internet connectivity, 3.04% have computer and Training Hall, 5.48% have Library and 0.60% CRCs has ICT Room. This shows that the status of library, ICT and internet facility is poor in condition. This might be due to lack of allotment of fund and its proper utilization. Thus, initiatives should be taken for improving the infrastructural status of the BRCs and CRCs because the workforce of an organization is very much influenced by the infrastructural facility available. A good infrastructure contributes to the feel-good factor of an employee which helps him/ her to work more efficiently.

The descriptive analysis of the statement of the sampled BRPs and CRCCs revealed that only 29.16% BRCs and 18.90% CRCs had sufficient manpower. The

reason behind this might be due to not conducting fresh recruitment to fill up the vacant posts. As manpower is proportional to productivity, therefore required number of staff should be appointed in the centres. The more people are available to work, the faster tasks can be completed and more assignments can be taken.

Table 3

Percentage of BRPs showing no. of schools in range

Range (No. of Schools)	% of respondents
101-125	4.16
126-150	8.33
150-175	0
176-200	4.16
201-225	12.5
226-250	16.6
Above 250	54.16

Table 4

Percentage of CRCCs showing no. of schools in range

Range (No. of Schools)	% of respondents
Below or 10	20.73
11-15	71.34
16-20	7.92

Data from Table 3 and 4 reveals the percentage of respondents (sampled BRPs and CRCCs) showing total number of schools in range which fall under the BRCs and CRCs. It is found from Table 3 that majority of the sampled BRPs (54.16%) responded that there are more than 250 schools in their respective BRCs. Similarly, Table 6 shows that most of the sampled CRCCs (71.34%) had mentioned that there are 11 to 15 numbers of schools in their respective CRCs. Thus, the above Data shows the status of existing numbers of schools in the respective BRCs and CRCs. The number of schools covered under the centres are very much essential as their main responsibility is to provide on-site academic support to the schools. Accordingly, provision of sufficient manpower will help in performing their duties effectively.

Table 5

Average distance (in range) of schools from BRCs and CRCs

Average distance in range	% of school in BRCs	% of school in CRCs
0 to 5 km	12.59	79.31
0 to 10 km	24.80	16.27
0 to 15 km	28.20	3.93
0 to 20 km and above	34.41	0.49

Figure 2

Graphical representation of Average distance (in range) of schools from BRCs and CRCs

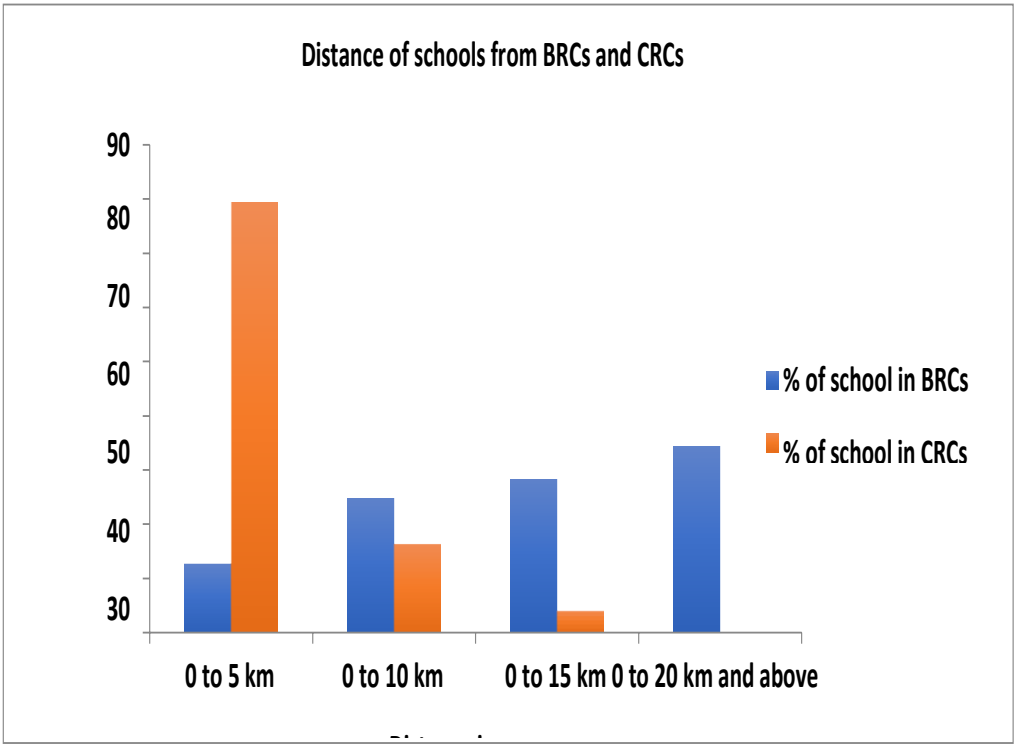


Table 5 and Figure 2 reveal the status of average distance (in range) of schools from BRCs and CRCs. In BRCs, 34.41% of schools fall under the range of 0 to 20 km and above and 12.59% of schools lies under the range of 0 to 5 km of distance. And the scenario is totally reverse in case of CRCs where maximum percentage of schools falls under 0 to 5 km of range (79.31%) and lowest percentage of schools (0.49%) exists in the range between 0 to 20 km. These data bring to light that the distance of most of the schools of the BRCs were more in range whereas the distance of the schools under the CRCs were quite accessible. The BRC and CRC coordinators have to visit schools frequently and attend the monthly meetings at CRC level and School level. Hence, the functioning becomes efficient if the schools are located at a convenient distance from the BRC and CRC to which they are attached.

Table 6

Mode of facilitating professional development by Samagra Siksha, Axom

Mode	% of BRPs	% of CRCCs
Through conducting training/workshop	83.33	86.58
By providing reading materials/ guidelines	83.33	82.31
Through webinars	70.83	77.43

Table 6 shows the various modes of facilitating professional development of the BRPs and CRCCs by Samagra Siksha, Axom. It is found from the table that 83.33% of the sampled BRPs were oriented for professional development through conducting training/ workshop and received reading materials and guidelines. 70.83% were oriented through webinars.

Again, similar results were seen in case of sampled CRCCs. 86.58% was oriented through training/workshop, 82.31% received materials/guidelines and 77.43% were oriented through webinars.

These data highlight that Samagra Siksha, Axom used various effective modes like conducting training, workshop, webinars, providing reading materials and guidelines for facilitating professional development of the BRPs and CRCCs.

Table 7

Training/ Workshop attended by BRPs during last 2 years

Area of Training/Workshop	During last 2 years (in %)	Organizer
Teachers Training	12.50	SSA
RP Training on Math & English	20.83	SSA
NISTHA	75	SCERT
SMC Members Training	12.50	SSA
Need Based Program	8.33	SSA
Program on Child Right	12.50	NGO
Learning outcome	12.50	SSA & SCERT
On Smart Class (Abhyudaya)	4.17	SSA
REP	4.17	SSA
Shala Shidhi	16.67	SSA
Training on Pedagogy	4.17	SCERT
Training on ICT	4.17	SCERT
Digital and Home-based Education	8.33	SSA
Mental health & well-being	25	SSA
Shiksha Samridhi Shala	4.17	NCERT/SCERT

Table 8

Training/Workshop attended by CRCCs during last 2 years

Area of Training/Workshop	During last 2 years (in %)	Organizer
National Achievement Survey	3.65	SSA
Vidyadaan	0.61	SSA
NISTHA	75	SCERT
SMC – RP/KRP Training	30.50	SSA/DMC
Mental Wellbeing Webinar	10.36	SSA/SCERT/BMC/ Bharati Foundation
E content Webinar	18.90	SSA/DIET
School Safety and Disaster Management	15.85	SSA

Learning Outcome Training	8.53	SCERT
Pre-primary Training	1.82	DIET
Capacity Building	6.10	UNICEF
REP	2.43	SSA
Language & Math Training	30.50	SSA
Maths & English for Class I & II	21.34	SCERT/DIET
Parental Education	8.53	Bidya Bharti
Tobacco	3.65	NGO
Rupantor	6.10	Sri Aurobinda Society
Building as Learning aid (BALA)	0.61	NITI AYOG
DIKSHA	14.02	DIET
GUNOTSAV	0.60	SSA/DIET
NEP Training	0.60	SSA
Digital Pedagogy	0.60	SSA
OER	3.04	SCERT
Language Training	6.10	SCERT
Reading Enhancement	1.82	SCERT

Table 7 and 8 shows the various trainings and workshops attended by the sampled BRPs and CRCCs. Though the above tables show that different trainings and programs were organized by various functionaries during the last two years, but very less percentage of the sampled BRPs and CRCCs attended those trainings. Poor attendance of the sampled BRPs and CRCCs is really a matter of concern as trainings/workshops are the ways to orient with updated knowledge which helps in proper functioning and deal with the present situation effectively. But it is found from the above data that highest 75% of the sampled BRPs and CRCCs attended training on NISTHA. National Initiative for School Heads and Teacher's Holistic Advancement (NISTHA) is the worlds' largest teachers training program to motivate and equip teachers to encourage and foster critical thinking in students. Thus, more than 75% of BRPs and CRCCs are expected to attend this training.

Again, 41.67% of BRPs attended training on Learning Outcome (LO) organized by SCERT in the last two years. Trainings on Learning Outcome (LO) are the intended measurable outcome that learners will achieve once they have finished the course. In

this type of training, learner should detail the information that will be acquired and what learners will be able to accomplish through learning this information. Hence, attempts should be made to cover more BRPs and CRCCs in this type of training.

Besides, only 30.50% of CRCCs attended Resource Person (RP)/Key Resource Person (KRP) training and Language/Math training organized by Samagra Siksha, Axom (SSA) and Block Mission Centre (BMC). The above table also shows other trainings which were attended by a very limited percentage of the sampled BRPs and CRCCs.

It can be mentioned from the above discussion that various trainings programs were organized by different organizers from time to time during the last two years. But the number of participants were found to be very minimal. The reason behind this might be due to their lack of willingness or interest and in this regard proper well-planned measures should be taken by authority to increase the number of participants. Moreover, 2020-21 is a year marked by the pandemic. The covid-19 pandemic has affected lives of people in one way or another which might be also a cause for less number of participants.

Table 9
Average Number of school visit during last two years

Category	Average no. of School Visited
BRPs	102.70
CRCCs	65.70

Table 10
Average Frequency of visit per school during last two years

During last two years				
Category	**Average frequency of visit per school (in%)**			
	Once in 2 month	**Once in a month**	**Twice in a month**	**Thrice in a month**
BRPs	25	25	12.50	37.50
During last two years				
Category	**Average frequency of visit per school (in%)**			
	Once in 2 month	**Once in a month**	**Twice in a month**	**Thrice in 2 month**
CRCC	00.00	22.56	39.63	22.56

Table 9 and 10 reveals the average number of schools visited during last two years and the frequency of school visits by the sampled BRPs and CRCCs. It is found from Table 11 that average 102.70 number of schools were visited by the sampled BRPs during the last two years. It is seen from the table 10 that 25% of them visited the school once in a month and once in two month. 12.50% visited twice in a month and 37.50% visited thrice in a month.

On the other hand, data from the above Table 9 shows that average 65.70 number of schools were visited by the sampled CRCCs during the last two years, where 22.56% of them visited the schools once in a month and thrice in a month; and 39.63% of the sampled CRCCs visited schools twice in a month (From table 10).

Thus from the above analysis it can be said that the status of frequency of school visited by the sampled BRPs and CRCCs were found to be quite less in respect of the average numbers of school visited during last two years. This might be due to lack of timely remuneration and other allowances/facilities by the concerned authority. Another reason might be due to covid-19 pandemic as the schools remain closed during the last academic year.

Table 11
Frequency of School visit by BRPs and CRCCs showing in % (As per SMC President/ Member Secretary)

Category	Once in 2 Month	Once in a month	Twice in a month	Thrice in a month
BRPs	21.28	23.40	19.14	10.06
CRCCs	2.13	23.40	21.27	31.91

Figure 3

Graphical representation of Frequency of School visit by BRPs and CRCCs showing in % (As per SMC President/ Member Secretary)

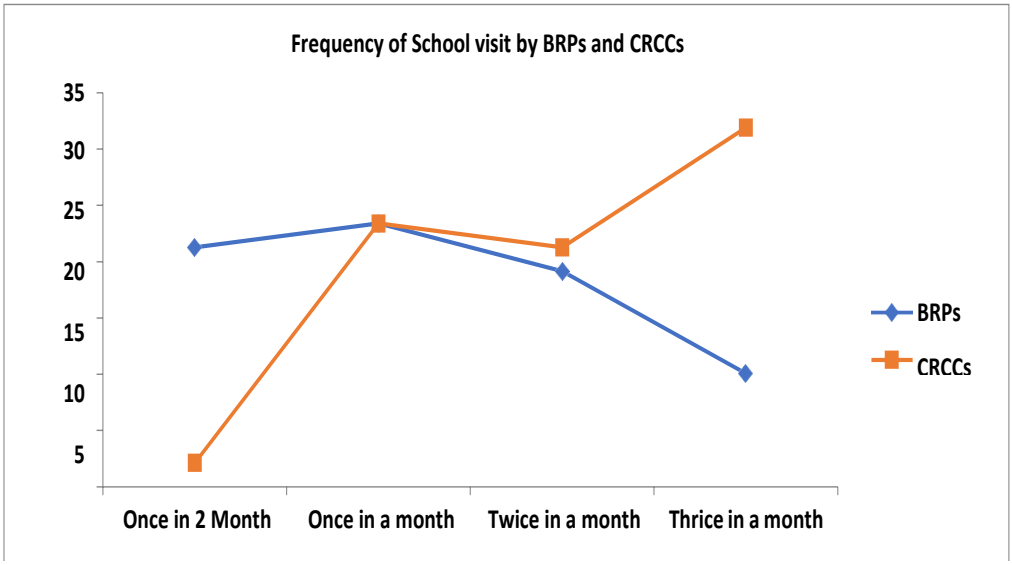


Table 11 and Figure 3 show the frequency of school visit by BRPs and CRCCs as per the sampled SMC President/Member Secretary. It is found from the table that majority 23.40% of the sampled SMC President/Member Secretary mentioned that BRPs visit school once in a month and 31.91% of the sampled SMC President/Member Secretary responded that CRCCs visit school thrice in a month. Thus, as per the sampled SMC President/Member Secretary, mostly BRPs visited school once in a month and CRCCs visited thrice in a month.

Table 12

Average number of teacher trainings, workshops organized by BRPs during last 3 years

Program	2018-19	2019-20	2020-21
Training	2.92	2.46	1.38
Workshop	1.67	1.04	0.50

Table 13
Average numbers of teacher trainings and workshops. organized by CRCs during last 3 years

Program	2018-19	2019-20	2020-21
Training	1.84	1.42	0.66
Workshop	0.43	0.29	0.22

From Table 12 and 13, data reveals the average number of trainings and workshops organized by the sampled BRPs and CRCCs. Average number of trainings organized by the sampled BRPs were 2.92 in 2018-19, 2.46 in 2019-20 and 1.38 in 2020-21. Similarly Average number of workshops organized were 1.67 in 2018-19, 1.04 in 2019-20 and 0.50 in 2020-21.

On the other hand, average numbers of trainings organized by the sampled CRCCs were 1.84 in 2018-19, 1.42 in 2019-20 and 0.66 in 2020-21. Again average number of workshops organized were 0.43 in 2018-19, 0.29 in 2019-20 and 0.22 in 2020-21.

The above data depicts a poor picture of the average number of teacher trainings and workshops organized by them. Also, a gradual decline can be noticed in the average number of trainings and workshops organized by both the sampled BRPs and CRCCs during the last 3 years.

Findings of the Study

1. Almost all the BRPs and CRCCs had basic academic and professional qualifications.
2. Most of BRPS and CRCCs had knowledge of ICT and had developed e-content for teaching learning process.
3. Most of the BRPs and CRCCs were unaware about JOB CHART prescribed by Samagra Shiksha.
4. The basic infrastructural status of the BRCs and CRCs was average with required number of staff room, office room etc. But the status of library, ICT and internet facility was poor in condition.
5. Most of the BRCs and CRCs had insufficient manpower.
6. There were approximately more than 250 schools in most of the BRCs and

approximately 11 to 15 number of schools in most of the CRCs.

7. The distance of most of the schools of the BRCs were more in range (0-20 km) whereas the distance of the schools under the CRCs were quite accessible (0-5km).
8. Various effective modes were used for facilitating professional development of the BRPs and CRCCs by Samagra Siksha, Axom like conducting trainings, workshops, webinars, providing reading materials and guidelines.
9. Various trainings programs were organized by different organizers for the BRPs and CRCCs from time to time during the last two years. But the number of participants were found to be very minimal.
10. The status of frequency of school visited by the BRPs and CRCCs were found to be quite less in respect of the average numbers of school visited during last two years.
11. As per the sampled SMC President/Member Secretary, mostly BRPs visited school once in a month and CRCCs visited thrice in a month.
12. Very minimal number of teacher trainings and workshops were organized by the BRPs and CRCCs and also a gradual decline was noticed in the average number of trainings and workshops organized by both the BRPs and CRCCs during last 3 years.

Suggestions

1. A common guideline with operating norms and procedure and uniform organizational structure may be adopted by the state for BRCs and CRCs across the state.
2. Adequate infrastructure with appropriate IT facilities, transport facility, advanced facilities in libraries etc. are very much needed for effective functioning of the functionaries. The centres to be equipped with proper facilities in ensuring quality of academic inputs to schools.
3. Provision for sufficient manpower in accordance with prescribed role and responsibility of BRCs and CRCs for smooth functioning of these entities.
4. Induction training to be made mandatory for all those who are appointed in BRCs, CRCs. Such training should be conducted by respective DIET.
5. Job charts to be prepared and given to the incumbents during induction training

with all clarifications.

6. Since the BRC and CRC coordinators are basically accountable for providing academic support, all efforts to be made to facilitate discharge of their academic duties with minimum involvement in administrative tasks.

Conclusion

The above discussion gives a clear idea about the overall existing status of the sampled CRCs and BRCs on basis of several aspects like essential qualification of the coordinators, infrastructural facilities available in the centres, number and distance of schools under the centres, frequency of school visits by the coordinators and number of trainings/workshops organized by the coordinators for the teachers and also attended by them for their own professional growth. It is found from the above analysis that except qualification of the coordinators, the other aspects need to be improved and upgraded for its smooth functioning. Improvement of its status will also help in achieving the aim of the National Education Policy 2020 (NEP 2020).

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