Three Days
Multidisciplinary National Conference on

NEP-2020:

Innovation in Teaching-Learning & Evaluation Process in Higher Education

24 to 26th February 2023   Calangute, Bardez, Goa

Conference Proceedings

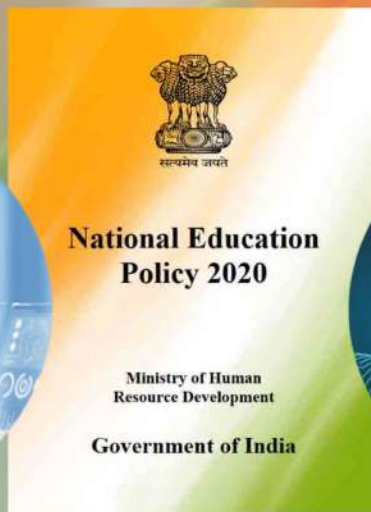**Print and Online   Issue 1   English and Hindi**

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Index

From the Bench of Editor

The higher education plays an extremely significant role in promoting the educational aspects and societal values for embodying India as envisioned in its Constitution. As India is moving towards, knowledgeable and skilled nation, young Indians are likely to aspire for higher education. To cope with requirements of 21st century and demands of global market the role of quality education at most important. It must enable an individual to study one or more specialized areas of interest at a deep level, and also develop character, ethical and Constitutional values, intellectual curiosity, scientific temper, creativity, spirit of service and new millennium capabilities across a range of disciplines including sciences, social sciences, arts, humanities, languages, as well as professional, technical, and vocational subjects. A quality higher education must enable personal accomplishment and enlightenment, constructive public engagement, and productive contribution to the society.

After independence, Jawaharlal Lal Nehru had a clear vision to modernize Indian education system. Hence University education commission (1948-49) and secondary education commission (1952-53) were set up. . IITs were setup to impart high-quality science education to students. NCERT was framed as an autonomous organization that would advise union and state government. The first national policy on education (1968) was based on recommendations of the Kothari commission. This talks about the focus on learning of regional language. And need of specialized training and qualification of teachers. Rajiv Gandhi had special mentoring attitude to reform the Indian education system. He had laid down many inclusive policies in the field of education for the betterment of unprivileged society. His government introduced a new education policy in 1986. With certain modifications, The 1986 National policy on education was introduced in 1992. It was called 'program of action'. It stressed about common entrance examinations for professional and technical education. In October 2001, Atal Bihari Bajpai government introduced a common entrance exam for IITs and NITS called IITJEE and AIEEE respectively.

Now the scenario has been changed India is stepping as growing liberal country for educational reforms, currently has about 845 universities and approximately 40,000 higher education institutions (HIEs), reflecting the overall high fragmentation. Multidisciplinary style of higher education that is a major requirement for education reforms in the country for the 21st century. Well structured and futuristic education policy is essential for a country which leads to economic and social progress. The Union Cabinet of India on 29 July 2020 approved The National Education Policy 2020 (NEP 2020), lay-outs the vision of India's new education system. The currently introduced National Education Policy 2020 envisions India centered education system that contributes directly to transforming our nation sustainably into an equitable and vibrant knowledge society, by providing high quality education to all. Now our education system has shifted its focus towards producing employers/ entrepreneur rather than employees. NEP 2020 is successful step to revolutionize the Indian education to become Aatmanirbhar Bharat. It is predicted that India will be the third largest economy in the world by 2030-2032 with estimated GDP of ten trillion dollars.

This conference with the theme 'NEP 2020: Innovation in Teaching-Learning & Evaluation Process in Higher Education' is the right platform to bring various stakeholders under one roof to discuss needs of its execution in a totality. Through this conference we will put all our effort to drive the national education policy in higher education. The thematic talks and the technical sessions will drive you through the multi dimensional emergence in the higher educational world. This could be the first tourist conference of its kind in the region where everyone could have opportunity to showcase and present their ideas, thoughts, developments that could lead to actual execution of national education policy from which every individual can be able to survive with meaningful aspect in community and to take India to new heights.

- Dr. Pavan Mandavkar
Chief Editor
and Editorial Board

Role of Teacher in NEP 2020

Miss. Saroj Y. Lakhadive

H.O.D. of Home-Economics

Indira Mahavidyalaya, Kalamb, Dist. Yavatmal, Maharashtra (India)

Email id- saroj20lakhadive@gmail.com

Abstract:

The main goal of NEP 2020 is to have an education system which gives fairaccess to the highest-quality education for all students regardless of social or financial background. This Policy proposes thereassessment and re-forming of all aspects of the education structure to create a new system which is related with the aspirational goals of 21st centuryeducation based on traditions and values of Indian culture. The ancient and endless Indian knowledge and thoughts has been a guiding nimble forthis Policy. The aim of education inancient India was not just the to acquire of knowledge but also to prepare one to sustain in this world. To achieve this aim, we need highly knowledgeable and experienced teachers. So, NEP has focused on maximizing the ability of teachers to do their jobs efficiently.Teacher task is not to mould the student but to unfold the hidden talent and expertise present inside the student. The National Education Policy offers various option for students to choose between subjects therefore teachers will have to play a key role in proper execution ofthis flexible and students centred policy and to help students to decide on what options are to be selected for their enhancements and growth.

Keywords: NEP, Role of Teacher, Teaching Methods

Introduction:

The success of any education policy depends upon the certainty and efforts of its' building blocks i.e., teachers and educators. Hence teachers must be pre-emptive in understanding in detail the aims, objectives and the axiom of the NEP and upskill themselves with laborious Incessant Professional Expansion programs, trainings, involvement in seminars, workshops, and conferences at various levels. Implementation of NEP will require dumping the old practices of memorization and repetitive learning. and adopting various innovative methods which are beyond textbooks which helps to get maximum outputs from students. The aim of Teacher should not be the syllabus completion only but to achieve learning outcomes. Teachers must recognize the concepts of unified and multiple approaches needed for development of 21st century skills. While implementing the NEP at the ground level, it becomes imperative for the teaching faculty to have strong coordination, commitment co-operation, and the motivation to transform students' life through skill and character building. Teachers are responsible for conniving the future of our children which in turn results in building future of our nation. Hence the teacher is kept at the centre of this new fundamental reforms in the education system. This new education policy focuses on re-establishment of teachers at all levels, as the most respected and indispensable members of our society and tries to give everything to empower teachers and help them to do their job as effectively as possible.

Teachers play vital role in the life of every student. Like a potter who gives proper shape to clay, teachers have ability to mould the students and shape up their personality by influencing their thinking and motivating them to achieve their dreams.

Acquiring knowledge becomes difficult for students without the help of a good teacher. A teacher should be a good communicator to deliver as well as to receive.Many times, students cannot build courage to ask questions in the classroom, where a teacher must take a role in bringing the queries of an individual student and help him in his understanding the matter in easy language. A teacher should be a strong communicator with his/ her words. Listening to students well is another important attribute for an ideal teacher. A teacher must have friendly relationship with students so that they are not afraid of asking questions or asserting their problems or flaws. This listening develops confidence in students, which conclusively conclude in successful learning. The capacity of engaging students with responsiveness, interactive and creative lectures is an act of good teaching. Teacher should understand what problems the students are facing in their lives which in turn enhances the student teacher relationship. Comparatively, a teacher must be proficient of creating a gargantuan appetite in students for knowledge that will make them eligible for at least the next 40 years' requirement of the society. Education is a mission, and its success depends on the involvement of all stakeholders. An ideal teacher focuses on teamwork as a he must collaborate with other teachers to gain some ideas of effective teaching,have to attend some seminars, conferences which helps him understand various innovative ways of working to get maximum outcome from students. A multi-disciplinarian teacher becomes a successful teacher. NEP has mandated for universal education which calls for the whole outlook of a teacher for his/her subject without splitting the knowledge into distinct components such as Chemistry, Home-Economics, Geography etc. A teacher may have specialization in a particular subject or area, but he/she must be able to incorporate different subjects and has a thorough outlook to inspire students to think beyond subject. Resources and Requirements of society are changing with time. Teacher should apply various teaching methods as per the time change. For example, after pandemic everything was online, so teacher must work on the teaching method from physical to virtual by utilizing online resources effectively to engage students. An ideal teacher must be open and adaptive to changes and responsive to the changing needs of society with time. A teacher should focus on innovative ways of learning instead of bookish learning, more emphasis should be given on practical learning and live examples as they will last longer in students memory.

Following are some methods that can be used to teach this subject in more interactive way:

1. Use of Technology - Utilizing technology should be an integral means of learning as this provokes the interest of young learners and improve their learning outcome.The teachers can show some short videos and documentaries featuring some practical demo sessions of the events covered in their syllabus on projector.

2. Interactive sessions - To make lecture more interactive give different topic to each student and in next lecture let them explain that topic. This will make the students to study that topic in detailed manner and will give them stage daring.

3. Live visits - Arrange industrial visits of students to some small scale and large-scale businesses, Women Entrepreneurship Establishment centre, Cottage Industry etc which will help them to understand entrepreneurial skills and it will also motivate them to start their own business.

4. Group discussions- Divide students into small groups and give them a topic to discuss. This method will improve their thinking capability and will teach them how to interact with other members of society.

5. Arranging competitions among students – Give a topic to students to create their own project which helps to showcase their creativity.

6. Arrange question and answer session- Once a week arrange a question-and-answer session where students can come up with all their doubts and teacher will give appropriate and satisfactory answers to their doubts.

Conclusion:

This paper gives overview of NEP 2020, and the different roles teacher has to play such as facilitators, having cordial relationships with students, tourist guide for the industrial visits, event organizer etc. Teacher can make use of technology wisely in lessons, inspire students to work with others to exchange knowledge and creating a place for all categories of learners. The traditional epoch where teachers were apprehensive, and students had no access to them is gone. Nowadays teachers must help, advice and have an affable relationship with their students. No method is best to teach any subject so teacher must try different new techniques to make teaching effective and interactive. The aim is giving students opportunity to explore, analyse, participate fully, and learn to the supreme so that after completing their education they can easily find a way of earning for their families.

References:

1. A Joseph Dorairaj, Attributes of an Ideal Teacher, University News, Vol-58722, June 01-07-2020.National Education Policy 2020, Ministry of Human Resource Development, Govt of India published in the Gazette of India, 29 July 2020

2. Southern New Hampshire University (December 2017), 10 qualities of a Good Teacher, www.snhu.edu

3. Association of Indian Universities, University Administration and Management, December 1994 4. Sulabha Natraj, Some Universal Qualities of Great Teachers, University News, Vol. 57 No. 35, Sept. 02-08, 2019.

4. https://www.sentinelassam.com/editorial/nep-2020-and-desired-attributes-of-teachers-550398

5. National Education Policy 2020 by Ministry of Human Resource Development, Government of India

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Quality Academic Research in all Fields through a New Research Foundation

Gaurav Saxena
Asst. professor
School of legal studies
Sangam University
Bhilwara, Rajasthan
gaurav.saxena@sangamuniversity.ac.in   7568777928

Abstract

Research is the key to improve development in to the countries globally. Research should be qualitative not quantitative and as according to the new demands of society. By NEP 2020 NRF (New research foundation) is the key institutions to provide all educational institutions support and supervision for implementing NEP2020 in India. All COMPARATIVE data analysis with all departments and study for all section of educational syestem regarding acedmic research should be done qualitative and result oriented.

Key Words: Research, art, language, culture, NEP, progress,

RESEARCH word is derived from the Middle French word "recherche" whichmeans "to go about seeking". 'Research ' is the re-finding of things as you are wanted. For Every country Research development and Technology evolution with Qualitative Educational Institutions makes country enrichment with progress and development.

Knowledge creation and research are critical in growing and sustaining a large and vibrant economy, uplifting society, and continuously inspiring a nation to achieve even greater heights. Indeed, some of the most prosperous civilizations such as India, Mesopotamia, Egypt, and Greeceto the modern era (such as the United States, Germany, Israel, South Korea, and Japan, weare strong in knowledge that societies attained intellectual and material wealth in large part through celebrated and fundamental contributions to new knowledge in the realm of science as well as art, language, and culture that enhanced and uplifted not only their own civilizations but others around the globe.

A robust ecosystem of research is perhaps more important than ever with the rapid changes occurring in the world today as in the realm of climate change, population dynamics and management, biotechnology, an expanding digital marketplace, and the rise of machine learning and artificial intelligence.

If India is to become a leader in these disparate areas, and truly achieve the potential of its vast talent pool to again become a leading knowledge society in the coming years and decades, the nation will require a significant expansion of its research capabilities and output across disciplines.

Today, the criticality of research is more than ever before, for the economic, intellectual, societal, environmental, and technological health and progress of a nation.

Despite this critical importance of research, the research and innovation investment in India is, at the current time, only 0.69% of GDP as compared to 2.8% in the United States of America, 4.3% in Israel and 4.2% in South Korea.

The societal challenges that India needs to address today, such as access for all its citizens to clean drinking water and sanitation, quality education and healthcare, improved transportation, air quality, energy, and infrastructure, will require the implementation of approaches and solutions that are not only informed by top-notch science and technology but are also rooted in a deep understanding of the social sciences and humanities and the various socio-cultural and environmental dimensions of the nation. Facing and addressing these challenges will require high-quality interdisciplinary research across fields that must be done in India and cannot simply be imported; the ability to conduct one's own research also enables a country to much more easily import and adapt relevant research from abroad.

Furthermore, in addition to their value in solutions to societal problems, any country's identity, upliftment, spiritual/intellectual satisfaction and creativity is also attained in a major way through its history, art, language, and culture. Research in the arts and humanities, along with innovations in the sciences and social sciences, are, therefore, extremely important for the progress and enlightened nature of a nation.

Research and innovation at education institutions in India, particularly those that are engaged in higher education, is critical. Evidence from the world's best universities throughout history shows that the best teaching and learning processes at the higher education level occur in environments where there is also a strong culture of research and knowledge creation; conversely, much of the very best research in the world has occurred in multidisciplinary university settings.

India has a long historical tradition of research and knowledge creation, in disciplines ranging from science and mathematics to art and literature to phonetics and languages to medicine and agriculture. This needs to be further strengthened to make India lead research and innovation in the 21st century, as a strong and enlightened knowledge society and one of the three largest economies in the world.

Thus, this Policy envisions a comprehensive approach to transforming the quality and quantity of research in India. This includes definitive shifts in school education to a more play and discoverybased style of learning with emphasis on the scientific method and critical thinking. This includes career counselling in schools towards identifying student interests and talents, promoting research in universities, the multidisciplinary nature of all HEIs and the emphasis on holistic education, the inclusion of research and internships in the undergraduate curriculum, faculty career management systems that give due weightage to research, and the governance and regulatory changes that encourage an environment of research and innovation. All of these aspects are extremely critical for developing a research mindset in the country.

We need to build on these various elements in a synergistic manner, and to thereby truly grow and catalyze quality research in the nation, this policy envisions the establishment of a National Research Foundation (NRF). The overarching goal of the NRF will be to enable a culture of research to permeate through our universities. In particular, the NRF will provide a reliable base of merit-based but equitable peer-reviewed research funding, helping to develop a culture of research in the country through suitable incentives for and recognition of outstanding research, and by undertaking major initiatives to seed and grow research at State Universities and other public institutions where research capability is currently limited. The NRF will

competitively fund research in all disciplines. Successful research will be recognized, and where relevant, implemented through close linkages with governmental agencies as well as with industry and private/philanthropic organizations.

Institutions that currently fund research at some level, such as the Department of Science and Technology (DST), Department of Atomic Energy (DAE), Department of Bio-Technology (DBT), Indian Council of Agriculture Research (ICAR), Indian Council of Medical Research (ICMR), Indian Council of Historical Research (ICHR), and University Grants Commission (UGC), as well as various private and philanthropic organizations, will continue to independently fund research according to their priorities and needs. However, NRF will carefully coordinate with other funding agencies and will work with science, engineering, and other academies to ensure synergy of purpose and avoid duplication of efforts. The NRF will be governed, independently of the government, by a rotating Board of Governors consisting of the very best researchers and innovators across fields.

These primary activities of the NRF will be to:

(a) Fund competitive, peer-reviewed grant proposals of all types and across all disciplines;

(b) Seed, grow, and facilitate research at academic institutions, particularly at universities and colleges where research is currently in a nascent stage, through mentoring of such institutions;

(c) Act as a liaison between researchers and relevant branches of government as well as industry, so that research scholars are constantly made aware of the most urgent national research issues, and so that policymakers are constantly made aware of the latest research breakthroughs; so as to allow breakthroughs to be optimally brought into policy and/or implementation; and

(d) Recognise outstanding research and progress towards educational scientific and vocational research.

Though we need now instead empirical or quantitative research methodology we need to focus on quality and research as in present scenario with all technology not limited to numbers of people involved should be focus on WHAT WE GOT RESEARCH OUTPUT AS SOCITAL IMPACT.

Research is need of every institutional development with country sustainability towards economical or social aspects. NRF NEW RESEARCH FOUNDATION WILL fulfil all aspects of research novation and Impactful qualitative research.

References:

1. Ministry of education NEP2020
2. Empirical study on NEP2020 on Reserachgate.net
3. Wikipedia NEP2020
4. UGC sailent features of NEP 2020
5. PIB features of NEP 2020

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National Education Policy 2020: Issues and Challenges in Higher Education

Prof. Dr. Ajay Khadse
N.A. Deshmukh College, Chandur Bajar,
Dist. Amravati, Maharashtra (India)

Abstract

As education promotes social and economic advancement, a nation's school and college levels require a well-defined and futuristic education strategy. To make their educational systems efficient, various nations implement various stages at the high school and college levels throughout their life cycles, taking into account tradition and culture. The aim for India's future educational system is described in the National Education Policy 2020 (NEP 2020), which was adopted by the Indian Union Cabinet on July 29, 2020.

The previous National Policy on Education, ie NPE 1986, has been replaced with the new policy. In both rural and urban India, the policy provides a complete framework for education from early childhood through higher education. It also covers vocational training. By 2021, the strategy wants to completely overhaul India's educational system. The administration quickly stressed that no one will be forced to study any particular language, and that English will not be replaced with any regional language as the language of teaching. The implementation of the language policy in NEP is up to the states, organisations, and schools; it is intended to be a broad guideline and advisory in nature.

Key words:

Education, policy, system, features, higher education, challenges

Introduction

The National Policy of Education, 1986 aimed to enhance and equalise educational possibilities across the country. Additionally, it sought to meet the particular needs of the kids (including the special and marginalised students). It envisioned a system of education that would aid in the nation's overall growth. It concentrated on the standard of instruction provided inside the institutions. NPE 1986 was amongst the most visionary education policies in India. It aided in the restructuring of education at different levels. Additionally, it substantially aided in the simplification of a standard educational framework. However, we might conclude that it succeed to give some of its recommendations a concrete form. Due to the persistent resource shortage, this education policy in India, like earlier ones, had difficulty putting its recommendations into practise. This National Education Policy (1986) was amended in the year 1992.

The present education policy (2020) is based on the report of the committee headed by Dr. K. Kasturirangan, the space scientist. Under the new National Education Policy, 2020, a target has been set to bring the Gross Enrollment Ratio (GER) to 100% by the year 2030. Under the new education policy, a target of 6% of GDP has been set for public expenditure on the education sector with the cooperation of the central and state governments. With the announcement of the new education policy, the name of the Ministry of Human Resource Management has been changed to Ministry of Education. The NEP 2020 calls for a large-scale implementation of a magnitude that has never before been undertaken anywhere in the world, given that there are currently about 350 million Indians in the age categories that are enrolled in school or attending college. The execution of this poses significant problems on both a quantitative and qualitative level.

The salient features of New education policy : 2020

i. Ensuring Universal Access at All Levels of schooling from pre-primary school to Grade 12;

ii. Ensuring quality early childhood care and education for all children between 3-6 years;

iii. New Curricular and Pedagogical Structure (5+3+3+4);

iv. No hard separations between arts and sciences, between curricular and extra-curricular activities, between vocational and academic streams;

v. Establishing National Mission on Foundational Literacy and Numeracy;

vi. Emphasis on promoting multilingualism and Indian languages; The medium of instruction until at least Grade 5, but preferably till Grade 8 and beyond, will be the home language/mother tongue/local language/regional language.

vii. Assessment reforms - Board Exams on up to two occasions during any given school year, one main examination and one for improvement, if desired;

viii. Setting up of a new National Assessment Centre, PARAKH (Performance Assessment, Review, and Analysis of Knowledge for Holistic Development);

ix. Equitable and inclusive education - Special emphasis given on Socially and Economically Disadvantaged Groups (SEDGs);

x. A separate Gender Inclusion fund and Special Education Zones for disadvantaged regions and groups;

xi. Robust and transparent processes for recruitment of teachers and merit based performance;

xii. Ensuring availability of all resources through school complexes and clusters;

xiii Setting up of State School Standards Authority (SSSA);

xiv Exposure of vocational education in school and higher education system;

xv. Increasing GER in higher education to 50%;

xvi Holistic and Multidisciplinary Education with multiple entry/exit options;

xvii. NTA to offer Common Entrance Exam for Admission to HEIs;

xviii. Establishment of Academic Bank of Credit;

xix Setting up of Multidisciplinary Education and Research Universities (MERUs);

xx. Setting up of National Research Foundation (NRF);

xxi 'Light but Tight' regulation;

xxii. Single overarching umbrella body for promotion of higher education sector including teacher education and excluding medical and legal education- the Higher Education Commission of India (HECI)-with independent bodies for standard setting- the General Education Council; funding-Higher Education Grants Council (HEGC); accreditation-National Accreditation Council (NAC); and regulation- National Higher Education Regulatory Council (NHERC);

xxiii. Expansion of open and distance learning to increase Gross Enrolment Ratio (GER).

xxiv. Internationalization of Education

xxv. Professional Education will be an integral part of the higher education system. Stand-alone technical universities, health science universities, legal and agricultural universities, or institutions in these or other fields, will aim to become multi-disciplinary institutions.

xxvi. Teacher Education - 4-year integrated stage-specific, subject- specific Bachelor of Education

xxvii. Establishing a National Mission for Mentoring.

xxviii. Creation of an autonomous body, the National Educational Technology Forum (NETF) to provide a platform for the free exchange of ideas on the use of technology to enhance learning, assessment, planning, administration. Appropriate integration of technology into all levels of education.

xxix. Achieving 100% youth and adult literacy.

xxx. Multiple mechanisms with checks and balances will combat and stop the commercialization of higher education.

xxxi.   All education institutions will be held to similar standards of audit and disclosure as a 'not for profit' entity.

xxxii.   The Centre and the States will work together to increase the public investment in Education sector to   reach 6% of GDP at the earliest.

xxxiii.   Strengthening of the Central Advisory Board of Education to ensure coordination to bring overall focus on quality education.

(Ministry of Education, Posted On: 01 AUG 2022 6:04PM by PIB Delhi)

The salient features as listed above reveal the aim of NEP-2020 that in order to transform education; the National Education Policy (NEP 2020) keeps the learner at the centre. It builds on the recommendations of the Justice J. S. Verma Commission (2012) and the Education Commission (1966–1966), as well as earlier iterations of the policy, such as the Right of Children to Free and Compulsory Education Act (2009) and the Right of Persons with Disabilities Act (2016). In fact, it represents a giant step toward the proper education. By guaranteeing access, relevance, equity, quality, and solid fundamental learning, it primarily focuses on the holistic development of students. The policy provides players in the education sector with a number of advantages. It plans to integrate curricula from early childhood care and education through secondary and higher education.

Provisions related to higher education

Under NEP-2020, a target has been set to increase the 'Gross Enrollment Ratio' in higher educational institutions from 26.3% (year 2018) to 50%, along with this, 3.5 crore seats will be added to higher educational institutions of the country.

Under NEP-2020, multiple entry and exit system has been adopted in undergraduate courses, under which students of 3 or 4 year undergraduate program will be able to leave the course at multiple levels and will be awarded degree or certificate accordingly (Certificate after 1 year, Advanced Diploma after 2 years, Bachelor's degree after 3 years and Bachelor's degree with research after 4 years).

An 'Academic Bank of Credit' will be provided to digitally secure the marks or credits obtained from various higher educational institutions, so that degrees can be awarded to students based on their performance. Under the new education policy, M.Phil. degree program has been abolished.

Challenges related to new education policy

Since education is a concurrent subject, most of the states have their own school boards, so the state governments will have to come forward for the actual implementation of this decision. Also, the idea of bringing in a National Higher Education Regulatory Council as the apex controlling body may be opposed by the states.

The way for admission in foreign universities has been paved in the new education policy. Various educationists believe that admission in foreign universities is expected to cost the Indian education system dearly. As a result, it can be challenging for lower class students to get higher education.

South Indian states allege that the government is trying to Sanskritize education with the 'three-language' formula.

NEP emphasises formative evaluation for learning. The continual tracking of learning outcomes is the main driver behind modifying the evaluation method. However, ongoing assessment necessitates the employment of creative evaluation strategies and assignments by educators. These methods necessitate the use of technology and the participation of both teachers and students. In India, there are great number of educational institutes and existing private institutes are "budget private schools." Consequently, implementing a continuous assessment framework in these institutions is a difficult endeavour.

Fee regulation is still in place in some states, but these regulatory processes are unable to curb profiteering in the form of unlimited donations.

In order to implement this policy learning must be made an engaging and enjoyable rather routine monotonous mental working that eventually produce unemployable youth. Trained teachers facilitators and supporting staff will also be required, supplemented by a pool of inspiring mentors. As a result, the policy will need to create a learning regime that considers the cultural and geographic diversity of the country as well as learning rate of each student.The new generation of technosavvy teachers will serve as role models for pupils, educating them about new technologies and serving as the primary drivers of IT implementation.

We need internet access in rural places because, as the pandemic showed, e-learning is the future. Digital classrooms, expertise-driven online teaching models, AR/VR technologies to fill in gaps in physical teaching and lab infrastructure, uniform assessment schemes across schools, career counselling sessions, and teacher training to master cutting-edge technologies are all part of this project's digital infrastructure. In the following ten years, this will still be a significant challenge. Securing funding will depend on the will to spend the proposed 6% of GDP on education as public expenditure.

Conclusion

The new National Education Policy, 2020, which has been approved by the Union Cabinet to change the Indian education system to meet the needs of 21st century India, if it is implemented successfully, then this new system will make India one of the leading countries of the world. This new education policy, which came after 34 years, aims to provide higher education to all students with a target of universalizing pre-primary education (3-6 years age group) by 2025. In graduate education, the inclusion of areas such as artificial intelligence, 3-D machines, data-analysis, biotechnology etc. will create skilled professionals in cutting-edge fields and increase the employability of the youth. The National Education Policy 2020 is a commendable and ambitious attempt to modernise, advance, and make equal India's educational system. In order to successfully implement this policy, decision-making processes must be drastically simplified, and budgetary resources must be reprioritized in the months and years to come.

Reference

"Key Features of National Education Policy 1986"
      https://onlineschoolsindia.in/school-guide/key-features-of-national-education/
Rani, Dr Ruchi. "National Education Policy-2020: Issues and Challenges"
      www.questjournals.org
"Salient Features of NEP, 2020"
      https://pib.gov.in/PressReleaseIframePage.aspx?PRID=1847066
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डॉ. संकर्षण पंडा

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Principal & Associate Professor (CS)
Acharya Shri Mahapragya Institute of Excellence,
Mahapragya Nagar, Asind, Bhilwara (Rajasthan) 311301 India
Mobile 9829625844   E Mail: pandasankarsanasind@gmail.com

संक्षेप:-

कृषि की परम्परागत तकनीक में पीढ़ी दर पीढ़ी उन्नति होती रही है। कृषि में विज्ञान के समावेश से हरित क्रांति द्वारा हम खाद्यान्न के मामले में आत्मनिर्भर हुए है । लेकिन एक दशक से ए.आई.एम.एल. ने हमारी सोच एवं कृषि प्रणाली को अत्यंत प्रभावित किया है। साथ ही कृषि जगत में आशातीत बदलाव भी हुए हैं। कुछ वर्षों से ए.आई.एम.एल. तकनीक पर आधारित खेती करने की प्रक्रिया विश्वभर में शुरु हो चुकी है लेकिन भारत जैसे विकासशील देश में अभी भी कृषि क्षेत्र में इस तकनीक के प्रयोग की स्थिति संतोषप्रद नहीं है। विकसित मॉडल का नाम है "T-CNN" अर्थात् "Typical Convolution Natural Network" यह वर्तमान में टमाटर, मिर्ची, कपास, मक्का, सोयाबीन, मूंगफल, मूंग, अमरूद, नींबू एवं स्ट्रास्ट्रॉबेरी आदि की पत्तियों के फोटो से रोगों का 92 प्रतिशत एक्यूरेसी के साथ पूर्वानुमान लगाने में समर्थ है ।

कूट शब्द:- एआईएमएल, टीसीएनएन, सीएनएन, न्यूरल नेटवर्क, पत्तियों के रोग।

प्रस्तावना:-

कृषि मानव जीवन का एक अभिन्न अंग है। मानव सभ्यता के विकास के साथ-साथ कृषि के स्वरूप में परिवर्तन और नवाचार होते रहे हैं एवं भविष्य में भी ये निरंतर रूप से होते रहेंगे । हालांकि जनसंख्या की दृष्टि से हम प्रथम या द्वितीय स्थान पर हैं फिर भी ए.आई.एम.एल. आधारित कृषि प्रणाली से हम अभी भी अनभिज्ञ हैं। ए.आई.एम.एल. तकनीक से कृषि करके हम कई समस्याओं का मोबाइल फोन एवं इन्टरनेट की सहायता से समाधान कर सकते हैं साथ ही कृषि में फसलों की गुणवत्ता एवं पैदावार को बढ़ा सकते हैं । संगम विश्वविद्यालय के विषय विशेषज्ञों के मार्ग निर्देशन में मैंने अपना शोध कार्य वर्ष 2019 में प्रारम्भ किया। शोध कार्य के दौरान ए.आई.एम.एल. तकनीक से विभिन्न प्रकार के पौधों की पत्तियों की फोटो से पौधों के रोगों का पूर्वानुमान लगाना था । मैं आप सभी को इस आलेख के माध्यम

से ए.आई.एम.एल. तकनीक आधारित कृषि की ओर ध्यान आकर्षित करना चाहता हूँ ।इस शोध को समझने के लिए सर्वप्रथम हमें यह जानना है कि कृषि में इस तकनीक की आवश्यकता क्यों है ?

1 भारत में आज भी कृषक परम्परागत तरीकों से कृषि करते हैं जिससे फसलों का यथेष्ट उत्पादन प्राप्त नहीं कर पाते हैं और परिणाम स्वरूप अधिक लाभ से वंचित रह जाते हैं।

2 कृषि पर्यवेक्षक, कृषि सहायकों और सरकारी संसाधनों की न्यून उपलब्धता के कारण भी उनके पर्याप्त लाभ में कमी रहती है।

3 मिट्टी, पानी, मौसम, फसल, कीटनाशक, उर्वरक एवं उनकी यथेष्ट मात्रा सम्बधी पर्याप्त ज्ञान का अभाव भी उनके कृषि कार्य में बाधक बनता है।

उपरोक्त तीनों बिंदुओं के अलावा भी कई अन्य कारण हो सकते हैं । असीम प्रयासों के उपरान्त भी परम्परागत कृषि प्रणाली से इन समस्याओं का हल कठिन है । जिन देशों की अर्थव्यवस्था कृषि पर निर्भर नहीं है, वे सब ए.आई.एम.एल. तकनीक को अपना कर कृषि उत्पादन में नये आयाम स्थापित कर रहे हैं। समय, काल और परिस्थिति के अनुसार परिवर्तन कर लेने का सभी विद्वानों ने समर्थन किया है। आइये हम ए.आई.एम.एल. तकनीक आधारित कृषि को समझने का प्रयास करते हैं।

ए.आई.एम.एल.:-

यह प्राकृतिक बुद्धि के विपरीत है एवं यह मशीन द्वारा प्रदर्शित बुद्धि है। ए.आई.एम.एल. से हम एक होशियार एजेंट का निर्माण करके उसे किसी आवश्यक कंपोनेंट में एकीकृत कर देते हैं ताकि वह वातावरण को समझ कर पूर्वानुमान करे जो कि हम सभी के लिए उपयोगी हो। ए.आई.एम.एल. तकनीक का प्रयोग खेती में भी हो सकता है । यह तकनीक किसानों को अवगत करायेगी कि,

• बीज कब बोना है,

• सिंचाई कब और कितनी करनी है,

• मिट्टी की उर्वरता की सटीक जानकारी से किसान को कब अवगत कराना है,

• पौधों पर तापमान के नियंत्रण हेतु क्या उपाय करना है,

• कीटनाशकों का उपयोग कब, कितना और कैसे करना हैऐसी समस्त समस्याओं को ए.आई.एम.एल. तकनीक द्वारा आसानी से हल कर सकते हैं ।

ए.आई.एम.एल. आधारित पूर्वानुमान प्रणाली:-

शोध कार्य अवधि के दौरान मेरे द्वारा जिस मोडल को विकसित किया गया वह एक कृत्रिम बुद्धि युक्त डिजीटल एजेंट है। जिसे कृषि वैज्ञानिक, कृषि पर्यवेक्षक एवं किसानों के अनुभव आधारित ज्ञान को अर्थात् समझ को एक मोडल के रुप में विकसित किया गया । इस विकसित मोडल का नाम है "T-CNN" अर्थात् "Typical Convolution Natural Network" यह टमाटर, मिर्ची, कपास, मक्का सोयाबीन, मूंगफल, मूंग, अमरूद, नींबू एवं स्ट्रास्ट्रॉबेरी आदि की पत्तियों के फोटो से रोग का पूर्वानुमान लगाने में समर्थ है । T-CNN मोडल को जिस फसल के साथ प्रशिक्षित किया जाता है यह उसके रोगों का पूर्वानुमान लगा सकता है। वर्तमान में बाजार में कई मोडल उपलब्ध हैं लेकिन वे खर्चीले एवं अधिक

मैमोरी घेरने वाले हैं, जबकि T-CNN मॉडल कम मैमोरी लेने वाला मॉडल है एवं इस मॉडल को किसी भी प्लेटफार्म पर संचालित किया जा सकता है। जब कभी किसी नवीन पौधे के लिए मॉडल को प्रशिक्षित करना हो तब Google Colabका प्रयोग करके इस कार्य को संपादित किया जा सकता है। इस मॉडल को किसी भी Android या iOS के App से integrate करके उपयोग में लिया जा सकता है। साथ ही किसानों को भी कृषि सम्बधी करणीय प्रयासों के सम्बन्ध में यथा समय अवगत कराया जा सकता है ताकि इसकी पूर्वानुमान तकनीकी प्रणाली से वे सभी लाभान्वित हो सकें ।

विकसित मॉडल की संरचना:-

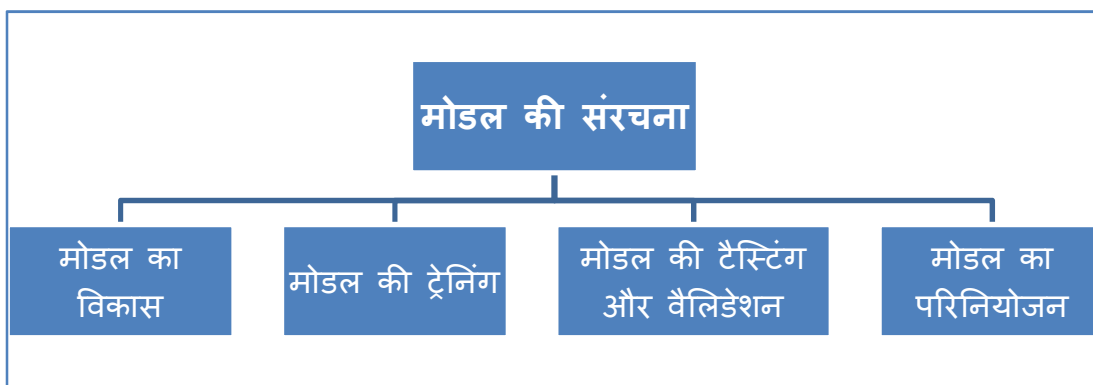इस मॉडल के विकास एवं संरचना को चार भागों में विभक्त किया गया है।

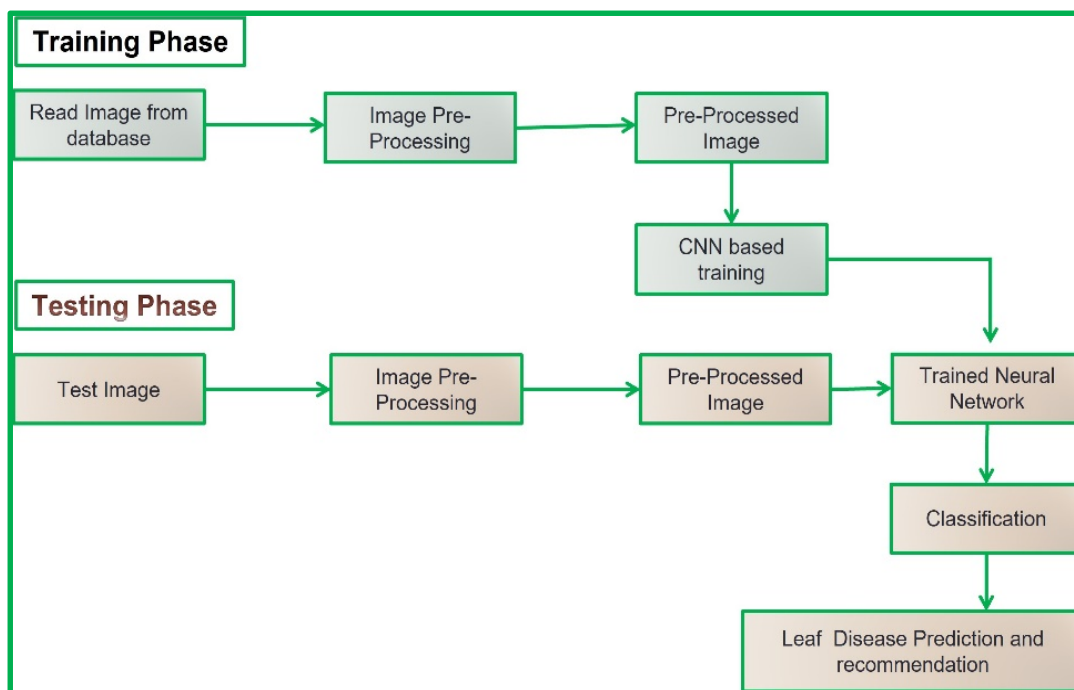*Figure 1: shows the development steps of the model*

Figure 2: Describes the workflow of the model

1. **मॉडल का विकास:-** T-CNN में कुल 15 लेयर्स हैं जिनमें छः Conv2Dके, छः मैक्स पूलिंग, एक फ्लैटंड एवं दो डेन्स लेयर्स है। पहली डेन्स लेयररेलु एक्टिवेशन फंक्शन के साथ एवं दूसरी सॉफ्टमैक्स

फंक्शन के साथ कार्य करती है A इसमें कर्नल की साइज3 x 3 एवं फिल्टर की साइज 2 x 2 हैS A इस मोडल में कलर इमेज का प्रयोग किया गया है जिसके आयामों का मान 256 x 256 है A कलर इमेज के कारण इमेज में कुल 256x256x3=196608 पैरामीटर हैं लेकिन यह विकसित मोडल 183747 पैरामीटर के साथ 92%से अधिकaccuracy प्रदान कर रहा है। मोडल में किसी प्रकार की ओवरफिटिंग की स्थिति नहीं है। इसकी पूर्वानुमान प्रणाली सन्तुलित एवं विश्वसनीय है।

2. **मोडल की ट्रेनिंग**:- इस फेज में हमने 22282 पौधों की पत्तियो के इमेज को मोबाइल फोन की सहायता से डेटासेट बनाया।   प्रत्येक इमेज को 1:1 resolution में लिया गया।   ट्रेनिंग से पूर्व इमेजेस को पौधों के अनुसार एवं रोगों के अनुसार वर्गीकृत कर अलग-अलग फोल्डर में स्टोर किया गया । इमेज प्री-प्रोसेसिंग के द्वारा इमेज के नॉइज़ एवं अन्य अनावश्यक तत्वों को हटा कर स्टोर कर दिया। इस प्रक्रिया को इमेज क्लीनिंग या फिल्टरेशन या सेगमेंटेशन के नाम से जाना जाता है। इमेज अगमेंटेशन से डेटासेट को रोटेशन एवं फ्लीपिंग तकनीक से बढ़ाया जाता है। जिससे कि मोडल को ट्रेनिंग के लिए पर्याप्त इमेज मिल सके ताकि मोडल अधिकतम एक्यूरेसी उपलब्ध करा सके ।

3. **मोडल की टैस्टिंग एवं वैलिडेशन:-** इस फेज में मोडल के एपोक,बैच साइज एवं डेटासेट की साइज को घटाबढ़ा कर रिजल्ट को ऑब्ज़र्व किया जाता है। इस प्रक्रिया में टेर्ष्निंग लॉस,एक्यूरेसी एवं वैलिडेसन लॉस को मॉनिटर किया जाता है। जिस क्राइटेरिया में मोडल बेहतरीन रिजल्ट दे उसी क्राइटेरिया को सेट करके,मोडल की टेर्ष्निंग प्रक्रिया को फिक्स कर दिया जाता है। इस मोडल में बैच साइज 32 है,एपोक का मान 30 है,टेर्ष्निंग डेटासेट 80% है ,टैस्टिंग डेटासेट 10% है एवं वैलिडेसन डेटासेट 10% है। इस क्राइटेरिया में मोडल श्रेष्ठ परिणाम दे रहा है इसलिए मोडल को उपरोक्त क्राइटेरिया अनुसार प्रशिक्षित किया गया है। इमेज की क्वालिटी मोडल की एक्यूरेसी में सहायक है।

4. **मोडल का परिनियोजन:-** मोडल के कॉन्फिडेंस को मेजर करने के बाद मोडल को.h5एक्सटेन्शन से सेव कर देते हैं। आवश्यकतानुसार इस मोडल को एप्लिकेशन के द्वारा एंड्राइड/आई ओ एस प्लेटफार्म पर उपलब्ध करवा कर इसे किसानों के लिए उपयोगी बनाया जा सकता है। किसानों को केवल ऐप्प को ओपन करके पत्तियों की इमेज को अपलोड करना है और शेष कार्य मोडल करता है। मोडल रिजल्ट को क्षेत्रीय भाषा में बदलकर या वौइस् मेसेज के रूप में प्रदर्शित किया जा सकता है ताकि मोडल की उपादेयता बढ़ायी जा सके।

TRAINING AND TESTING CRITERIA				Training80% Testing 10% Validation 10% Epoch 30 Batch size 32		Training 80% Testing10% Validation10% Epoch15 Batch size 32		Training70% Testing15% Validation15% Epoch 15 Batch size 32	
Sr No	Dataset	Class	Total Image	Loss	Acc	Loss	Acc	Loss	Acc
1	Lemon	3	1892	28.9	90.1	37.9	83.1	32.93	87.1
2	Potato	3	1721	0.52	97.92	15	86	6	94.92
3	Corn	4	3080	15	95	24	88	19	92

4	Grape	4	4062	20	94	29	87	24	91
5	Cotton	6	2024	35	79	44	72	39	76
6	Mung	5	2043	32	80	41	73	36	77
7	Guava	4	1076	40	74	49	67	44	71
8	Soybean	5	1678	38	76	47	69	42	73
9	Mungphali	4	1262	39	72	48	65	43	69
10	Chili	6	1564	36	75	45	68	40	72
11	Tomato	5	1880	25	84	34	77	29	81
12	ALL	49	22282	35	81	44	74	39	74

Table 1: specifies the training criteria of the model
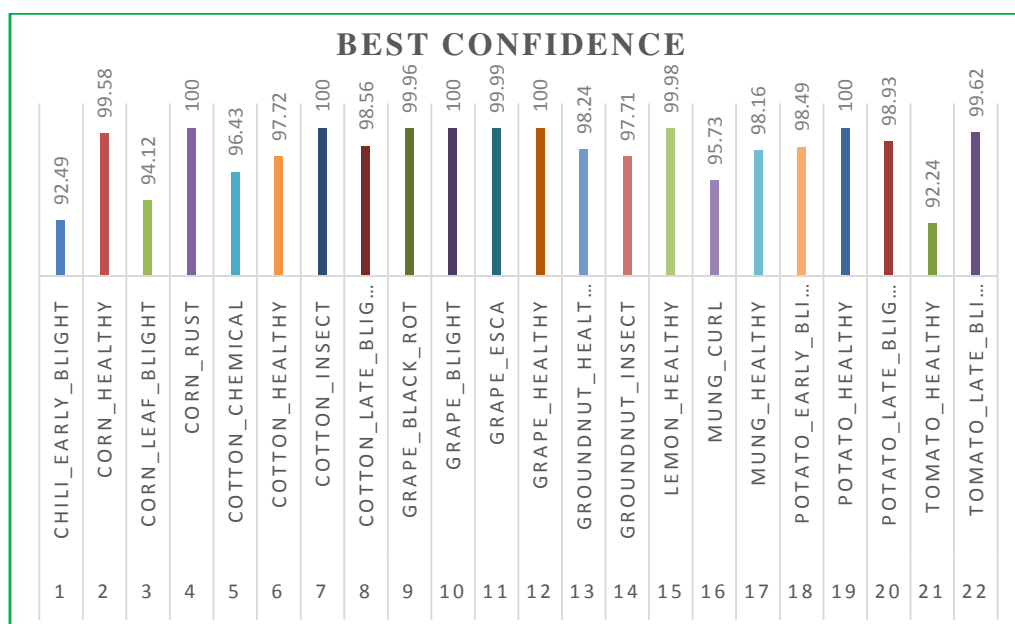
Figure 3: shows confidence score of T-CNN

भविष्य की योजना:-

विदित है कि पूर्वानुमान केवल पौधों के रोगों का नहीं होकर अन्य फेक्टर पर भी आधारित हो सकता है । इस मोडल में नमी,कीटनाशक,उर्वरक का पूर्वानुमान एवं रिकमेन्डेशन सिस्टम को इन्टीग्रटेड करके और भी उत्कृष्ट बनाया जा सकता है।

उपसंहार:-

शोध का उद्देश्य केवल कान्सेप्ट या आइडिया तक सीमित होकर रहना नहीं है। बल्कि कृषि उपयोगी बने इसलिए यह आलेख इस दिशा में एक पड़ाव है।   T-CNNमोडल किसानों के साथ-साथ ए.आई.एम.एल. लर्नर के लिए भी उपयोगी सिद्ध हो, इसका और भी विस्तार हो तथा फसलों की गुणवत्ता एवं पैदावार को बढ़ाने वाला हो यही मेरे शोध का उद्देश्य है । मेरी शोध का परिणाम टीसीएनएन मोडल है जो कि92 प्रतिशत एक्यूरेसी के साथ पत्तियों के रोगों का पूर्वानुमान लगाती है।

सन्दर्भ:-

1. Sankarsan Panda, Dr Vikas Somani, "Cotton Leaf Disease Detection Using Image Processing", Webology (ISSN: 1735-188X) Volume 18, Number 6, 2021. pp. 1786-3998.
2. Sankarsan Panda, Dr Vikas Somani, "PADDY LEAF DISEASE DETECTION USING IMAGE PROCESSING", THE JOURNAL OF ORIENTAL RESEARCH MADRAS [Vol. MMXXII-XCIII-V, ISSN : 0022-3301], MARCH 2022, pp.22-28.
3. Sankarsan Panda, Dr Vikas Somani, "MACHINE LEARNING TECHNIQUE TO IDENTIFY DISEASE ON TOMATO PLANT LEAVES", THE JOURNAL OF ORIENTAL RESEARCH MADRAS ISSN : 0022-3301│May 2022, pp 29-39.
4. Sankarsan Panda, Dr Vikas Somani, "Certain Investigations of Guava Leaf Disease Measurement in Necrotic Areas with Image Processing Techniques", Proceedings of the International Conference on Sustainable Computing and Data Communication Systems (ICSCDS-2022) IEEE Xplore Part Number: CFP22AZ5-ART; ISBN: 978-1-6654-7884-7, May 11, 2022 pp. 1727-1737.
5. Sujatha, R., Chatterjee; J. M., Jhanjhi, N. Z. &Brohi, S. N., "Performance of deep learning vs machine learning in plant leaf disease detection.", *Microprocessors and Microsystems*, Page No:*80* -103615, 2021.
6. Rauf, H.T.," A Guava Fruits and Leaves Dataset for Detection and Classification of Guava Diseases through Machine Learning. ", Mendeley Data, 2021.
7. Chowdhury M. E.; Rahman, T.; Khandakar A.; Ayari, M. A.; Khan, A. U., "Automatic and Reliable Leaf Disease Detection Using Deep Learning Techniques.", AgriEngineering, *3*(2), Page No: 294-312, 2021.

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The New Education Policy: Concerns and Prospects in context of Higher Education

[1]Dr. Praful U. Gawai
S.P.M.T.M Arts and Commerce College,
Chikhali, Dist. Buldana, Maharashtra

[2]Prof. Vilas Bhavare
P.N. College,
Pusad, Dist. Yavatmal, Maharashtra

Abstract

The New Education Policy 2020 is being started from the point of view of thoughtful education system. It is believed that its results will be beneficial and in the interest of the country. If the implementation of the new education policy is done properly, then our country will also establish a more advanced quality education and educated society like other countries, which will contribute significantly to the development of our country and we have full faith that this education policy will be successfully implemented. If implemented, it will take our country to a new height. The National Education Policy (NEP) is expected to transform the landscape of higher education in India by motivating higher education institutions to work on "solving problems" instead of "solving problems in search of solutions.

Key words: Education, principles, problems, prospects, concerns

Introduction

The NEP 2020 advanced framework will support scientific learning and value-based education. It will replace the outdated "curriculum" that is rigid and unable to modify with the times because of the cumbersome bureaucratic framework required to do so. The NEP 2020 emphasises the importance of making the educational system comprehensive, adaptable, and in line with the demands of 21st-century learning. But in order to achieve all of these objectives, we must consistently and long-term overcome all execution hurdles. The NEP 2020 drafting committee has made a thorough effort to create a policy that takes into account many points of view, international best practises in education, practical experience, and stakeholder feedback. Higher education – graduation level will be of four years. Along with technical education, you will also be able to study arts and humanities. Education of medicine, engineering, law will be given in a systematic manner according to the needs. Degree will be given even after three years; research etc. will be promoted as per the requirements.

There are currently over 1,000 higher education institutions (HEIs) in the country, including over 150 institutions of national importance. Over time, they have also become centres of scientific research. Institutions of higher education have shown a steady growth in the last decade in both the quantity and quality of research.

Presently India ranks third globally in terms of total research publications with a share of 5.31 per cent in total research publications. In the first two of these three aspects—education, knowledge creation (research and development) and innovation—Indian higher education institutions have done relatively well, but have lagged behind in innovation.

Core Principles of the Policy:

To know and recognise, to bring out the unique potentials of each student by sensitizing the teachers as well as the parents to promote holistic pursuit of each student in both scholastic and non-scholastic areas. Flexibility, so that learners have the ability to choose their learning trajectories and programs, and thus choose their own path in life according to their education and interests; No hard separation between arts and sciences, eliminating harmful hierarchies and barriers between curriculum and curricular guides, vocational and academic streams, and different areas of learning. Multi-disciplinary and integrative education: Strengthening the unity

and integrity of knowledge in science, social sciences, arts, psychology and sports for a multi-disciplinary world. Morality, human and philosophical values like compassion, respect for distance, Cleanliness, courtesy, democratic thought, respect for commercial Spirit, Scientific temper, freedom, responsibility, Pluralism and Justice. Promoting multilingualism and the power of language in teaching and learning, Life skills such as creativity, collaboration, teamwork, and resilience; A 'lightweight but functional framework' to ensure integrity, transparency and operational efficiency of the educational system through audits and commercial disclosures while encouraging innovation and out-of-the-box ideas through automation, research and validation ; and to foster and educate student, philanthropic, community partnerships while providing adequate funding for a strong, vibrant, commercial education system.

Problems of Indian Higher Education Institution

According to the All India Survey on Higher Education (AISHE) Report 2019-20, the Gross Enrollment Ratio (GER) in higher education in India is only 27.1% which is very low in comparison to developed countries as well as other developing countries. With the increase in enrollment at the school level, the supply of higher education institutions is inadequate to meet the growing demand for education in the country.

Ensuring quality in higher education is one of the biggest challenges at present. A large number of colleges and universities in India are unable to meet the minimum conditions prescribed by the UGC i.e. University Grants Commission.

Increasing interference of politicians in the management of higher education threatens the autonomy of higher education institutions. Also, students involved in various campaigns forget their educational objectives and start developing their career in politics.

Poor infrastructure is another challenge for India's higher education system, especially in institutions run by the public sector; the condition of infrastructure and physical facilities is not good. Teacher shortage and the inability of the state education system to attract and retain qualified teachers has posed challenges in the way of quality education over the years.Despite wide vacancies in higher education, a large number of NET/PhD candidates remain unemployed. Research is not being given enough attention in higher education institutions. There is a lack of resources and facilities and the number of teachers capable of guiding the students is also limited. Most of the research scholars are deprived of fellowship or they are not being provided fellowship on time which directly or indirectly affects their research. Additionally, the coordination of Indian higher education institutions with research centres and industry is weak.Indian education management is facing the challenges of over-centralisation, bureaucratic structures and accountability, transparency and professionalism.

Concerns

The policy's emphasis on skill development, particularly on career training and life skills, is one of its main features. The teaching of life skills is comparably simpler to apply and helps youngsters become adept at social behaviour and social adaptability. The main obstacle, however, is delivering vocational training because there is a risk of linking certain professions to particular communities that have long been dependent on particular occupations. The suggested occupational training is to be based on the pupils' determined aptitude. The public's attitude of vocational education needs to alter, and policymakers and administrators must reflect on why India is still far from meeting the goal established by the Kothari Commission in 1964–1966.
Leaning must be made into an engaging and enjoyable activity rather than a monotonous routine mental working that eventually produces unemployable youth in order to implement this policy. Trained teachers, facilitators, and support staff will also be required, supplemented by a pool of inspiring mentors. As a result, the policy will need to create a learning regime that considers the cultural and geographic diversity of our wonderful country as well as the various learning rates of each student. The new generation of tech-savvy teachers will serve as role models for pupils, educating them about new technologies and serving as the primary drivers of IT implementation

in schools. NEP 2020 endeavours not only to improve the cognitive skills in students wherein developing high order thinking skill and critical thinking along with building the foundation of literacy but also life skills which will prepare the students for the varied challenges in their adult life. Hence the change in the curriculum and teaching methods is the need of the hour so that maximum benefit can be incurred from the new policy. NEP demands a value-based education system along with pedagogical and curriculum changes. Hence, new methods need to be improvised and innovated for the successful application of the policy.

Any policy must be coherent with various laws and acts in order to be put into practise. The Right to Education Act of 2009 presents a legal challenge to the implementation of this strategy with regard to age. To resolve any issues between the Act and the recently announced policy in the long run, certain clauses such as the age at which schooling begins will need to be clarified.

An excellent concept that will provide students the freedom to study the subjects of their choice is an interdisciplinary educational system. Indian colleges have historically been highly segmented, with professors and academics fiercely guarding their respective fields of study. With very few exceptions, this culture is deeply ingrained, and the new policy calls for reforming it. Implementing an interdisciplinary higher education paradigm requires the teaching faculty to have expertise in other fields in addition to their own, which is a difficult endeavour. Over the course of the next ten or so years, a disruptive cultural transformation is required for the system to succeed.

A concern remains over the worth of these certifications and degrees, even though flexibility in the higher education model through the concept of alternative exits is a significant step for reducing the number of dropouts. The acquisition of degrees has a strong associations with jobs in the Indian mindset. Therefore, in order to put the new system into place, we must first destroy the outdated notion that getting a degree is a need for landing a job. This is a risky worldview that discredits and dissuades a person's other natural abilities.

Prospects of the new education policy in the context of higher education institutions

National Research Foundation (NRF): Indian academia has traditionally focused on research and development without much emphasis on relevance and delivery. The establishment of a National Research Foundation is expected to bring academia together with ministries and industry to fund research relevant to local needs. Under the framework of NRF, each government ministry (whether central or state ministry) is required to allocate separate funds for research.

Therefore, NRF is expected to present well-defined problems to researchers, so that they can find solutions in a goal-oriented and time-bound manner.

Our institutions not only need to be multidisciplinary in their scope and offerings, but also collaborate with each other to unleash the technology development potential of higher education institutions.

The need of the hour is to bring together "disparate" ideas in terms of disciplines, cultures (international programs) and approaches (academia-industrycollaboration).The multidisciplinary universities as envisaged in the NEP will focus on the creative potential of researchers.

Conclusion

The benefits of the national educational policy span all aspects of education, including formal education, post-doctoral research studies, and career training programmes. The National Education provides guidelines and permits colleges, universities, and schools to assess their own institutions. The Policy aids in removing the structural inequities and other educational issues that exist. Even if the policy incorporates significant elements of competition, practical execution is still urgently needed. The demanding policy must be implemented with the assistance of all the

governments and the collaboration of educational institution. Regarding finances, the implementation of the policy solely depends on government funding, which accounts for 6% of GDP and is once again a difficult challenge in the current environment. Therefore, the only requirement of the hour to overcome all current obstacles is effective execution.

Reference

1. Dr. Ruchi Rani "National Education Policy-2020: Issues and Challenges" *Quest Journals Journal of Research in Humanities and Social Science* Volume 10 ~ Issue 2 (2022)pp: 06-09
2. Gupta, Stuti (2020). Role and Perspective Contribution of Technology in Education Sector with respect to Natioanal Education Policy 2020.
3. https://www.hindustantimes.com/education/ugc-ask-varsities-to-create-awareness-about-new-education-policy-among-students-teachers/story-XjDXDw978SXD0VUPUmxhvL.html.
4. https://timesofindia.indiatimes.com/india/gender-inclusion-fund-spl-edu-zones-in policy/articleshow/77252728.cms#:~

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IMPACT OF PLYOMETRIC & CYCLE ERGOMETER TRAINING ON HANDBALL PLAYERS' ANAEROBIC PERFORMANCE

[1]**Mrs. Shital S. Raut**
Indira Mahavidyalay, Kalamb
District: Yavatmal (M.S.)
Email.: shital.raut123@gmail.com

[2]**Dr. Pravin C. Dabare (Supervisor)**
Shripad Krushna Kolhatkar Mahavidyalaya,
Jalgaon Jamod
Email: pravin.dabre@gmail.com

ABSTRACT

The purpose of the present study was to determine impact of plyometric & cycle ergometer training onHandball Players' anaerobic capacity. The participants were 30 men shot putters from Yewatmal Senior Secondary Schools, aged 14 to 18. (Maharashtra). Ten volunteers from each of the two experimental groups (Plyometric and Cycle Ergometer) and the control group were randomly chosen among the participants. The training was provided for six weeks. The two experimental groups got training three times each week, while the control group went about their normal daily activities. Data gathering focused on anaerobic capability. The Pre- and Post-tests were given in order to collect the data. Once the data had been gathered, the t-test was used to see whether there were any significant differences between the groups. For the anaerobic capacity, a covariance analysis was also utilised to identify significant differences. In order to find significant variations between the training regimens, the LSD Post hoc test was performed. The significance threshold was set at 0.05.The finding have shown the significant value of F-ratio's for anaerobic ability of all the experimental groups i.e. plyometric and cycle ergometer training programs as compared with the control group. The plyometric training program proved better than the cycle ergometer training.

Key words: Plyometric, Cycle ergometer, Anaerobic Ability

INTRODUCTION

The performance in most of the sports is determined by three factors namely physical fitness, technique and tactics. Strength is one such component which influences the performance and special attention has to be paid to it. There are three main form of Strength viz. Maximal strength, explosive strength and strength endurance. Strength may be developed in many ways such as weight lifting, bounding with or without resistance, various drills and of course depth jumping or plyometric. In 1996, V.M. Zaciorskij's work, which was published in Russian sports literature, introduced the term "plyometric." Plyometric exercise has also been referred to by various names as shock training, speed strength, bounce training, and elastic reactivity. Exercises like plyometric training are meant to build more powerful muscles. It is preferable for athletes, sprinters, football players, and occasionally boxers to include plyometric training into their training regimen in order to increase their level of explosive power.

Layers should gradually incorporate Handball Players into their workouts and should be sure to include plenty of rest intervals in the workout so that the body can recover sufficiently between sets and between exercises. Polymeric training can be so beneficial to Handball Players because, unlike standard weightlifting, they improve the explosion of the leg muscles rather than just building strength and muscle mass. a stationary one-wheeled bike that is used as an ergometer to evaluate a person's ability to do labor-intensive tasks under controlled conditions. Cycle ergometers are not very good at determining peak performances in those who are not accustomed to riding since the leg muscles often fatigue before the rest of the body. a fitness tool that makes it possible to measure under control the volume and speed of a person's physical activity. There are various distinct ergometer kinds, each with unique benefits and drawbacks.

The ergometer that athletes use should closely reflect their training or competition. To evaluate the labour production of competitive oarsmen under regulated conditions, rowing ergometers were developed. The way they pull on the oars is mimicked. Arm ergo metres work by having the user pedal their arms to turn a flywheel. They are especially well suited for individuals who perform physical activity primarily with their arms and shoulders. Anaerobic energy generation doesn't require oxygen. Lactic acid energy system is another name for the anaerobic energy system. The anaerobic energy system gives us the energy to carry out work when we engage in short-term exercise, but because the oxygen level was low, lactic acid generation began.

METHODS
Participant
For these purpose thirty male Handball Players aged between 14 – 18 years were selected from Senior Secondary Schools of Yewatmal, Maharashtra through purposive sampling technique. The subjects were divided in to three equal groups of ten subjects in each after pre-test of anaerobic ability through fifty meters dash.

1. Anaerobic ability
Sprint or speed tests can be performed over varying distances, depending on the factors being tested and the relevance to the sport.
a) The test consists of a single maximal sprint over 50 meters that is timed. Warm up thoroughly, including some practice starts and accelerations. Begin in a steady standing stance with one foot in front of the other (hands cannot contact the ground). The front foot should be placed behind the starting line. The starter says "set" then "go." when the subject is ready and immobile. The tester should give tips on how to maximize speed (such as staying low and driving hard with the arms and legs), and the participant should be encouraged not to slack down until reaching the finish line.
b) The best time is reported to the closest two decimal places after two attempts. Timing begins with the initial movement (if using a stopwatch) or when the timing system is activated, and ends when the chest crosses the finish line and/or the finishing timing gate is activated.

RELIABILITY OF DATA
The reliability of test score was established by test retest method. The reliability of data ispresented in table-1

Sr.no	Test Item	Coefficient of correlation
1	Anaerobic ability	.83

SIX WEEK OF PLYOMETRIC TRAINING PROGRAMME

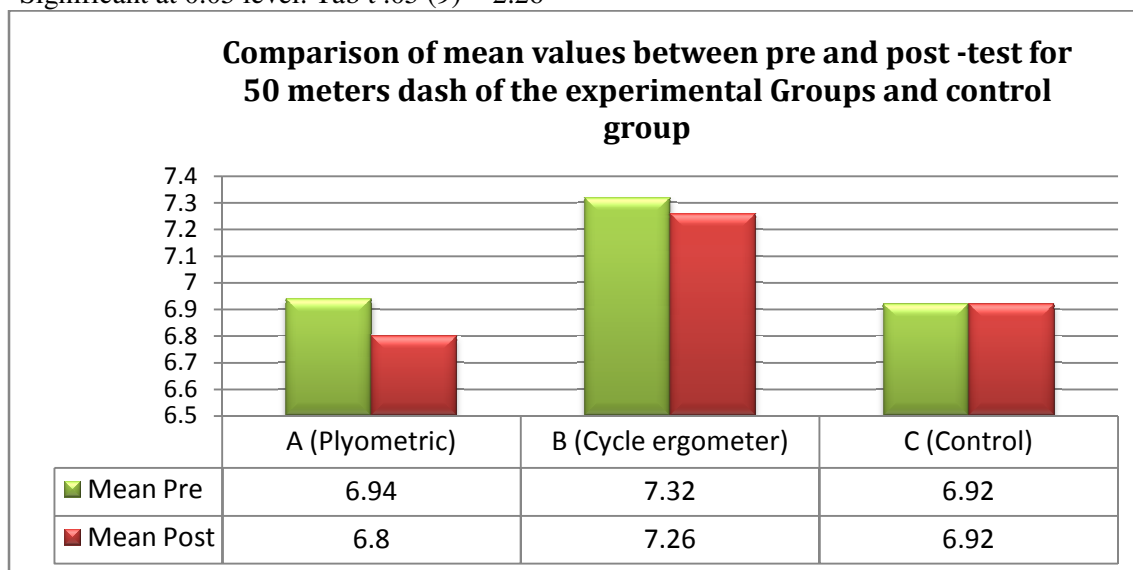| Plyometric Training Programme	Cycle Ergo meter Training Programme
Side box-Jumps	Sub-maximal
Foot Obstacle Hops	
Medicine Ball Throw	Supra-maximal
Lateral pass	
Back Toss throw	

RESULTS
In order to compare the pre and post-test means of all the experimental groups and control group, the 't' ratios were calculated, the results are given in table-

Table- 6: Comparison of mean values between pre and post -test for 50 meters dash of the experimental Groups and control group

Groups	Test	Mean (sec)	S.D.	S.E.	't'- ratio
A (Plyometric)	Pre	6.94	0.436	0.138	4.03*
	Post	6.80	0.426	0.135	
B (Cycle ergometer)	Pre	7.32	0.282	0.089	2.72*
	Post	7.26	0.301	0.095	
C (Control)	Pre	6.92	0.353	0.111	0.43
	Post	6.92	6.92	0.136	

*Significant at 0.05 level. Tab t .05 (9) = 2.26

Comparison of mean values between pre and post -test for 50 meters dash of the experimental Groups and control group

	A (Plyometric)	B (Cycle ergometer)	C (Control)
Mean Pre	6.94	7.32	6.92
Mean Post	6.8	7.26	6.92

Scores of 50 meter in case of plyometric training group. The obtained value of t-test was 4.03 which were found significant at 0.05 level confidences. In case of group B which trained with cycle ergometer training exercises has also shown the lesser value of post-test mean 7.26 than the pre-test mean value 7.32. The obtained t- test value 2.72 was more than the table value of 2.26 which shown significant value at 0.05 level confidence. In case of control group (Group-C) the value of pre-test mean 6.92 and post -test mean 6.92 did not differ significantly since the obtained value of t-test was 0.43, which was found insignificant at the selected level of 0.05 The results as shown in table-6 have exhibited that all the experimental groups (A, B) have shown the significant improvement in the performance of subjects in the test of fifty meter dash however the control group did not exhibit the significant improvement. Since the means of experimental groups differ significantly from each other, therefore, the data were subjected to analysis of co-variance. The results of analysis of co-variance are given in table m 7

Table- 7: Analysis of co-variance for the experimental groups and the control group of 50 meter dash

Test	Group Means (sec)			Source of variation	Sum of squares	df	Mean Sum of squares	F-ratio
	A	B	C					
Pre-test Mean	6.94	7.32	6.91	Among	1.0421	2	0.5211	3.963*
				Within	3.5493	27	0.1314	
Post-test Mean	6.80	7.26	6.91	Among	1.1287	2	0.5644	4.591*
				Within	3.3613	27	0.1245	
Adjusted Post-test Mean	6.69	7.01	7.05	Among	0.0859	2	0.0429	6.018*
				Within	0.1856	26	0.0071	

*Significant at 0.05 level F.05 (2, 27) = 3.35 F.05 (2, 26) = 3.37

As shown in table-7 that significant value of F-ratios were obtained for the comparison of pre- test means (3.963), post -test means (4.591) and adjusted post- test means (6.018). The obtained values were higher than the required value for the selected degree of freedom and the significant level. The data were further subjected to LSD post hoc test. The results of the Post hoc analysis and the difference between the means among the four groups are shown in table-8

Table- 8: Paired adjusted final means and differences between means among the experimental groups and control Group of 50 meters dash (seconds)

Groups			Mean Difference
A (Plyometric Group Mean)	B (Ergo meter Group Mean)	C (Control Group Mean)	
6.689	7.010		0.321*
6.689		7.047	0.321*
	7.010	7.047	0.037

* Significance at 0.05 level

Required value of critical difference at 0.05 level is 0.077 A – Plyometric training, B – Cycle ergo meter training, C –Control group The results in table-8 have shown that the mean differences of experimental groups when compared with the control group have exhibited the significant values of critical difference at the selected level of 0.05

The mean difference of the A and C which are given plyometric training are shown greater value as compared with the groups A (Plyometric training) and B (Cycle ergo meter training), and B
(Cycle ergo meter training) and C (Control group). Therefore the plyometric training group shows a significant value of critical difference when compared with cycle ergo meter training group and control group respectively.

The comparison of means of pre and post-test of fifty meter dash for the two experimental groups and the control group are presented in Figure- 9

Comparison Of Means Of Pre And Post-test Of Fifty Meter Dash For The Two Experimental Groups And The Control Group

	1	2	3
A (Plyometric Group Mean)	6.689	6.689	
B (Ergo meter Group Mean)	7.01		7.01
C (Control Group Mean)		7.047	7.047
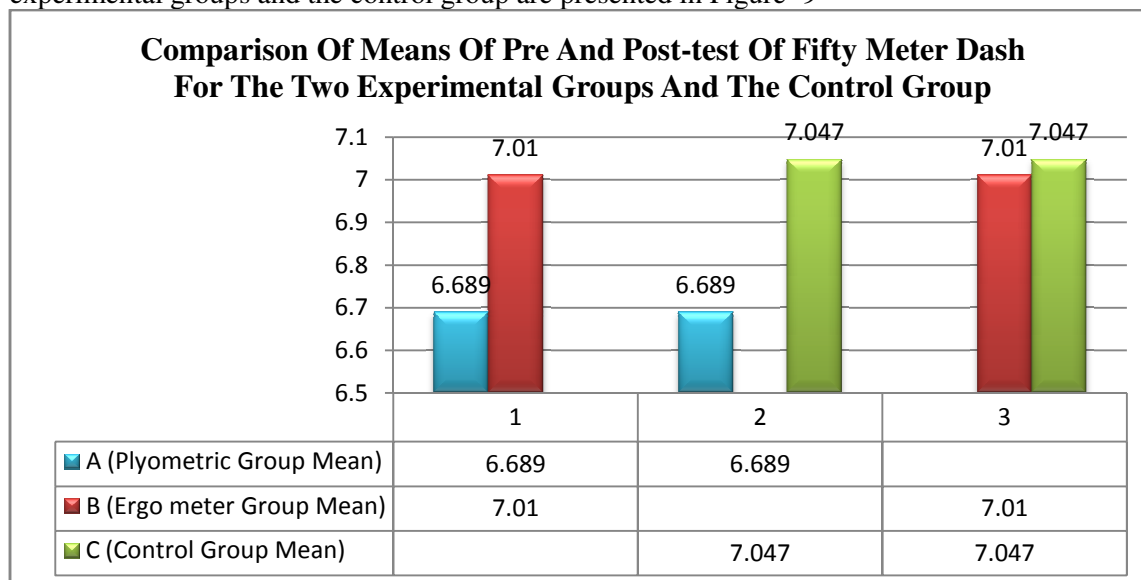
DISCUSSION:

Today the sports persons are trained scientifically with the latest training methods and sophisticated instruments for higher performance improvement in different sphere of sports [1].As a result, it is determined that if a decision must be made between two training techniques, namely plyometric training and cycle ergo metre training. Plyometric training may be preferable

for enhancing sprinting players' anaerobic abilities. Other reports back up these conclusions. Plyometric workouts improve muscle power and are most effective when they are tailored to match the exact motions required by the athletic activity [2]. Plyometric training is also the most effective strategy for increasing vertical leaping ability, positive energy output, and elastic energy use [3]. Sprint performance is improved by an 8-week sprint-specific plyometric training programme. [4].

CONCLUSIONS

On the basis of the findings of this study, the following conclusions are drawn: Six weeks of Plyometric and cycle ergo meter training exercises are useful program to improve the anaerobic ability. The plyometric training program has greater effect on Sprinting players in comparison to cycle ergometer training.

APPLICATIONS IN SPORT

The world of training methodology has crossed many milestones. In modern time athletes are being trained by highly sophisticated means for better achievements in their concerned sports, and greater stress has been laid on the quality rather than the quantity of training. Six weeks of Plyometric and cycle ergometer training exercises are useful program to improve the anaerobic ability of Handball Players.

REFERENCES

[1] Peter Arnold, (1972) Education, Physical Education and Personality Development, (London: Heinemann, Educational Books Ltd,), p.114.
[2] Damon P.S. Andrew et. al., (2010) "Effects of Three modified plyometric depth jumps and per iodized weight training on lower extremity power" The Sport Journal, Vol. 13, No. 4, p.5
[3] D. JGehriet. al.,(1998) "A Comparison of Plyometric Training Techniques for Improving Vertical Jump Ability and Energy Production", Journal of Strength and Conditioning Research, Vol.XII, No.02, pp.85-89.
[4] Edwin R. et. al., (2000) "Effects of a Plyometrics Intervention Programme on Sprint Performance", Journal of Strength and Conditioning Research, Vol.XIV, No.03, pp.295-301.
[5] Chu, D.A. (1991) "Jumping into Plyometric" Human Kinetics. European Journal of Scientific Research, 11(3):69-71.

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NEP 2020 and
Rabindranath Tagore's Vision of Education

Prof. P. S. Jawade
Indira Mahavidyalaya, Kalamb, Dist. Yavatmal, Maharashtra (India)
Affiliated to Sant Gadgebaba Amravti University
Email: bhaktijawade@gmail.com

Abstract

India is stepped in 21st century and moving towards, knowledgeable, and skilled nation, younger Indians are likely to aspire for higher education. Taking it into consideration futuristic and well structured education policy is essential for a country at college levels due to the reason that education leads to economic and social progress. On 29 July 2020 The National Education Policy 2020 (NEP 2020), which was approved by the Union Cabinet of India and it layouts the vision of India's new education system The new policy replaces the previous National Policy on Education, 1986 This policy has a comprehensive framework regarding higher education as well as vocational training in both rural and urban India. To satisfy the global market demand the policy aims to transform India's education system by 2021. The Indian education system is very popular and diversified on the international level. It is changed from medieval to modern. but there are national figures who brought revolutionary changes in the education system and made it friendlier than pressure. Rabindranath Tagore is one of them he was divine poet born in pre-independence India. He advocated for the development of a free mind, free knowledge and a free nation he thought that schools are schools as mills of rote learning with no freedom for creativity had no influence in their life. He regarded that education is process of enlightenment and divine wealth for entire life. These thoughts are very useful in modern way of education also some pedagogies and methodologies are implemented and in draft of NEP 2020 also. This research paper highlights the relevance of educational notion of Rabindranath Tagore great literary figure in English and Bengali in the context of NEP-2020.

Keywords:
Rabindranath Tagore, freedom, nature; imagination Higher Education, National Education Policy 2020Vishwabharti Strategies, Approaches, Challenges

Review of literature:

National Policy on Education of 1986 wanted some reforms and modifications so it is replaced by The NEP 2020. The Draft New Education Policy (DNEP) 2019 was followed by the public consultations. It had laid down many inclusive policies in the field of education for the betterment of unprivileged society. It is found that the small sized institutions are running single program and enrollment is decreasing hence to make them able to improve the quality of education.

Introduction:

Rabindranath Tagore was a multi-faceted genius; he handled every form of literature – poetry, fiction, drama, letters, lectures, and essays – and excelled in them all. Tagore also travelled far and wide, especially after receiving the Nobel Prize. Tagore also played the role of an educationist. There are mainly four fundamental principles of

Tagore, are naturalism humanism, internationalism and idealism. For this he founded Santiniketan (1901), Visva-Bharati (1921) and Sriniketan (1922). These institutions envision Rabindranath Tagore's educational thoughts which are still relevant for the world of today and tomorrow. He designed the educational model based on the freedom expression, sympathy compassion and other human values. He discarded the mechanical process of teaching –learning which cultivates the mind. He emphasized on education should be imparted in natural surroundings. He believed in giving freedom expression. The schools should not dead cage in which living minds are fed with food that's artificially prepared. It should enable to lead a complete life – economic, intellectual, aesthetic, social and spiritual. The education should be illumination process of heart which pave the way for spirit of sympathy service self service so that one should rise above the egocentrism. It is evident in Tagore's letters, lectures, interviews and essays, both in Bengali and in English, a body of his short stories, his novel The Home and the World and his allegorical poem "Two Birds". Some critics may dismiss Tagore's educational principles on the way of rickety sentimentalism. His ideals of human fellowship can bring the ecological crisis threatening world peace into the eyes of human society. According to him Education in real sense is to break the shackles of individual narrowness. The greatest aim of education is realization of the unity, but not of uniformity. A sound educational system brings the development of variety without losing the hold on the basic or spiritual unity. The perspective is still valid in the twenty-first century, when racial, religious and the problems of national boundaries are occurring day by day. Tagore's educational mission were two folded on firstly he was willing to reform the education system of India which has not much more importance to Indian culture, art and heritage and totally disassociated with the universe. Secondly, he wish to transform the system into one that would, quoted by Cenkner, "bring about a happy synthesis between the individual and society and [help] to realize the essential unity of the individual with the rest of humanity"

In a wonderful story of The Parrot's Training reflects the consequences that can arise from this orthodox education system, which deprives children from their right to interact with nature and learn freely from the book of nature. One the king decided to educate the bird so the golden cage is prepared security is maintained by the king's men and pundits were appointed for learning of bird the entire education department gets involved in the act, eventually one day the bird dies and the king's men declare that the bird's education is complete. Here the message of Tagore clear to take the children apart from the their natural surroundings in the name of education and forcing them into a regime of rote learning in a confined space, children are effectively being deprived of their true potential in life and rendered into a state of passivity, inanity and even death also.

The Postmaster" and "The Painter, the Postmaster" is a story about a young postmaster who is sent to a village for his first posting. He completed a bachelor's degree but his education has not prepared him for the realities of life. He therefore fails to interact with the people in his new setting, remaining unduly vain about his education and his urban upbringing. He also fails to acquaint his natural surroundings. Besides this the postmaster occasionally writes poetry about nature, it is by no means sincere, as his heart persistently longs for the city life. From this it is determined that people who are callous, insensitive and incapable of feeling; they are not capable of adapting themselves to their social or natural surroundings, and remain trapped in their narrow, egocentric selves, full of selfishness and self-indulgence.the modern education produces is hallow

and not suitable for Indian society,. Tagore stated that while India needed an active intercourse between its urban and rural people, with natural ambience.

Functional Adaptation of NEP:

The higher education plays an extremely significant role in promoting human being and societal values for embodying India as envisioned in its Constitution.. Considering 21st century requirements, quality of higher education must aim to develop good, thoughtful, well-rounded, and creative individuals. It must enable an individual to study one or more specialized areas of interest at a deep level, and also develop character, ethical and Constitutional values, intellectual curiosity, scientific temper, creativity, spirit of service. The NEP 2020 emphasis on advantage of technology in making the youth future-ready with the development digital infrastructure such as digital classrooms, remote expertise-driven teaching models, Inter-disciplinary and multi disciplinary higher education demands for a cultural shift In higher education, the National Education Policy 2020's focus on inter-disciplinary learning is a very welcome step. Universities, especially in India, have for decades been very silo-ed and departmentalized. The National Education policy 2020 has many initiatives to improve the quality and the broadness of the education system in India.

Conclusion:

This Policy also argues against commercialization of education. There has been significant increase in number of private universities by Indian providers. However, in the same breadth it allows for foreign universities to come to India. Focus on futuristic curriculum makes sense, and a separate body dedicated to focus on integrating technology in institutions is necessary direction. The inclusion of Tagore's principles in tomorrow's educational models will certainly help to deposit the changes in the current education system, by making students more aware of the importance of human fellowship, creativity and kinship with nature, and helping them to realize that there is much more to education than merely acquiring knowledge and becoming rich and successful in adult life; rather, true education brings enlightenment to the individual's soul, and enables him or her to experience unity with the rest of humanity and appreciate the joy of existence.

References:

Das Gupta, U. (2004). Rabindranath Tagore: A biography. New Delhi: Oxford University Press. Das Gupta, U. (Ed.). (2009).
Rabindranath Tagore: Selected writings on education and nationalism. New Delhi: Oxford University Press. Dillon, A. (2004).
Alam, F. (2012). Rabindranath Tagore and national identity formation in Bangladesh: Essays and review. Dhaka: Bangla Academy.
Bhattacharya, K. (2014). Rabindranath Tagore: Adventure of ideas and innovative practices in education. New York, NY: Springer
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Articles of the Hindu and Times of India

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VALUE EDUCATION: A GOEC THROUGH E-LEARNING FOR SUSTAINABLE DEVELOPMENT OF SOCIETY

[1]Dr. Dasharath M. Chavhan
[1]Department of Chemistry
Indira Mahavidyalaya, Kalamb Dist Yavatmal, Maharashtra (India) 445 401
Mobile No. 9637360295/9420422581   dmchavhan1985@gmail.com

Abstract:-

Education plays the important role in transformation of knowledge among the society. Value education is the process by which people give moral values to others. E-learning as a learning process created by interaction with digitally delivered content, network-based services and tutoring support. The tremendous development in the science and technology, life of human being become more complex and faster. By preparing the live story on the moral value, recorded lecture of eminent professor can made available to people through app. It is time saving and cost effective learning. It is the easy way of learning any time anywhere without disturbing the regular life schedule of learner. This method of e-learning is beneficial for promoting equality, social justice, national cohesion and democratic citizenship. Through this we can solve the some social issues like social and emotional learning, moral reasoning development, life skills education, violence prevention, critical thinking, ethical reasoning, it also helps in becoming a better person who will be the tomorrow's future of our country it is the need of the day.

Keywords:- Value education, E-learning, moral value, time saving, social issues, democratic citizenship.

Introduction

Education plays the important role in transformation of knowledge among the society. Education also play the role in the development of an all round and well-balanced personality of the students, it will leads to all dimensions of the human intellect so that our children can help make our nation more democratic, cohesive, socially responsible, culturally rich and intellectually competitive nation. Value education is the process by which people give moral values to others.[1] Value-education is a many sided endeavor and in an activity during which young people are assisted by adults or older people in schools, family homes, clubs and religious and other organizations, to make explicit those underlying their own attitudes, to assess the effectiveness of these values for their own and others long term well-being and to reflect on and acquire other values which are more effective for long term well-being. Value- education is thus concerned to make morality a living concern for students. Hence, what is needed is value-education.

According to Markus E-learning as a learning process created by interaction with digitally delivered content, network-based services and tutoring support. E-learning is any technologically mediated learning using computers whether from a distance or in face to face classroom setting (computer assisted learning), it is a shift from traditional education or training to ICT-based personalized, flexible, individual, self-organized, collaborative learning based on a community of learners, teachers, facilitators, experts. E-learning is the use of Internet technologies to enhance knowledge and performance. E-learning technologies offer learners control over content, learning sequence, pace of learning, time, and often media, allowing them to tailor their experiences to meet their personal learning objectives to manage access to e-learning materials, consensus on technical standardization, and methods for peer review of these resources.[2] e-learning can make the people more educate on the value. Recently, there has been

a crucial increase in acts of violence, distrust, and bad habits, lack of love and respect, and
intolerance throughout the whole world and in our country. Decrease of human values within
social structure poses a serious threat for future generations; therefore, relevant precautions
should immediately be taken so that education systems can achieve their goals of raising
effective and responsible citizens.[3] E- learning is a crucial channel offering the opportunity to
use mass media devices and its new technologies for education. This system has been helping
those wishing to have a vocation and those others hoping to improve their educational
backgrounds. [4]

Need of Value Education Through e-learning

Unlike traditional chalk and board method of teaching, e-Learning makes learning simpler,
easier, and more effective. It has more advantages than disadvantages like it is cost effective,
saves time, 24x7 accesses, learn your own speed, quick answer of any problem etc. Unlike
classroom teaching, with online learning you can access the content an unlimited number of
times. This is especially required at the time of revision when preparing for an exam. In
traditional form of learning, if you cannot attend the lecture, then you have to prepare for that
topic on your own; in e-Learning, you can attend the lectures whenever you want with ease.

How to make Value Education through e-learning more effective

The tremendous developments in the science and technology, life of human being
become more complex and faster. They have not enough time to spend in the classrooms to study
value education. It may be possible to enclose several problem-solving activities into the course
books or courses conducted through video-conference method so as to make students think about
their own solutions. Related dramas can be broadcasted via TV or radio programs in order to
help students with their decision making skills. Similarly, several pages on values can be spread
among inside the course books. These pages on values may include a problem situation, a two-
to-three paragraph text, a part of a movie, or a painting. Present day most of the people have
hardware (particularly computers, laptop, android Mobiles).Provision of technical support for e-
learning Faster Internet connectivity/improved bandwidth. Improved software awareness rising
about the value of e-learning.

Moral Value

Value education can realize that which moral are good and which moral are bad. By preparing
the live story on the moral value, recorded lecture of eminent professor on the moral value made
available easy through various app. Through internet can be viewed by the people and can
understand more effectively than the teacher teaches in the classroom. By this the twelve values
like unity, peace, happiness, hope, humility, simplicity, trust, freedom, cooperation, honesty,
courage, and love can be popularized among the society.

Role of Teacher

Teacher should prepared the popular talk on moral character and upload it on the link. Such
lecture can be seen by the students when they have empty time. Such lectures are also available
to those people who are employed and not enough time to attend the lectures in classrooms.

Role of University

The university must have to commit to guiding principles of socialism, secularism, democracy
and national integration. University must have to incorporate the certificate course on the value
education in under graduate courses. Like that of environmental study there must be the
certificate course on the value education. Such courses may be run online as it doesn't disturb the
regular time table of the college. It can be teach via audio-visual mode or the study material
made available to the students to their e-mail, whatsup groups or CD's may be provided.

Role of Government

In the present day ever increasing the social violences, lack of peace in the society, loss of cooperation and honesty among the people the value education become necessary. Government must have to take the initiation for awareness of value education. The awareness can be achieved by short film on the moral story and it will make available to people through national channel or such short film make available to download through app which have low cost. The government has to make the mandatory certificate course on value education along with basic qualification in the civil services. It will help to minimize the corruption which is the today's need.

Benefit of the e-learning for Value Education

It is time saving and cost effective learning. It is the easy way of learning ay time anywhere without disturbing the regular life schedule of learner. Students can learned the topic well by saying the examples with story in classroom lecture and in case of e-learning they can see the live videos of same story by accessing the internet. Through e-learning we can make the learning of value education more effective.

Conclusion:-

The present scenario of the society is very bad. There are vast societal changes no one has the time to spend on moral learning. E-learning is not the time bound education system. The students or learner can be learn through e-learning at any time everywhere and lot of time this method of learning is very much beneficial to slow learner who can learn the same topic more number of way. This method of e-learning is beneficial for promoting equality, social justice, national cohesion and democratic citizenship. Through this we can solve the some social issues like social and emotional learning, moral reasoning development, life skills education, violence prevention, critical thinking, ethical reasoning, it also helps in becoming a better person who will be the tomorrow's future of our country it is the need of the day.

References

1. Powney J., Cullen M-A., Schlapp U., Johnstone M. & Munn P. Understanding value education in the primary school. York: Reports Express. p. Vii
2. Vanve A., Gaikwad R., Shelar K., a new trend e-learning in education system, IRJET, 3 (4), 2016
3. Dr. Handan D., value education through distance learning: opinions of students who already completed value education, Turkish Online Journal of Distance Education, 16 (1) Article 8,2015
4. Akbas O., Values education activities used by branch teachers in primary schools:A comparison between 2004 and 2007, Kastamonu Eğitim Dergisi, 17(2), 403-414. A(2009).
5. www.google.com/ value education Wikipedia

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Synthesis spectral characterisation and biological activity of hetero-cyclic compound of 2-imidazolones

Dr. Suraj Deshmukh   Dr. M K Rahangdale
Nagarjuna Institute of Engineering Technology and Management

Abstract:

2-imidazolones have gained immense significance in human life due to variety of their applications. Though there are several methods for the synthesis of 2-imidazolones, most of them required longer reflux time of 8 to 10 hours. Hence the proposed work was undertaken to workout simple methodology for the synthesis of 2-imidazolones and to improve the yield of the products, by employing Zeolite as a catalyst. The work presented here describes the synthesis of some substituted 2-imidazolones obtained from substituted benzoins and urea in CH_3COOH as a solvent in presence of Zeolite as a catalyst. Substituted benzoins in turn were obtained from aromatic aldehydes by their condensation in presence of aqueous NaCN. The characterisation of synthesized compounds was made on the basis of chemical properties, elemental and spectral analysis.

Keywords:

Substituted benzoins, Urea, Methyl urea, Phenyl urea, Zeolite catalyst, 2-imidazolones

INTRODUCTION

2-Imidazolones are the heterocyclic compounds containing nitrogen atoms at 1 and 3 position and C=O group at 2 position. Imidazolones are believed to be associated with several pharmacological activities. Many natural products are believed to contain imidazolones. For example Leucetta and the Oroidin families of alkaloids have been reported to contain either 2-aminoimidazole or 2-imidazolone moiety.

1,3 Azoles (e.g. 2-imidazolones) are found to exist in their carbonyl tautomeric forms. There is less aromatic character in such systems which can be illustrated by the acid catalyzed dimerization of 2–imidazolone which acts as an enamide in the process.The Leucetta and Oroidin families of alkaloids [1] have been identified which contain either 2-aminoimidazole or 2-imidazolone moiety[2-3]. Glass D et al.[4]reported 4-(4-Guanidinobenzoyl)-2-imidazolones and related compounds having phosphodiesterase inhibitors and novel cardio tonics with combined histamine H_2 receptor agonist and PDE 111 inhibitor activity.Stoffel and speziale[5] described the preparation of 2-imidazolones by a novel ring closure of propynylureas with phosphorous penta chloride 2-imidazolone was obtained via a stable isolable imidazolium chloride.Jie-Fei Cheng et al.[6] carried out A traceless solid phase synthesis of 2-imidazolones. Polymer-bound glycerol resin was reacted with bromo acetaldehyde diethyl acetal to give the cyclic acetal bromide on the solid support. Inas M AlNashef[7] described a novel method for the synthesis of 2-imidazolones. The superoxide ion electrochemically generated reduction of oxygen or chemically generated by dissolving potassium superoxide in ionic liquids, react with alkyl imidazoliumcations of imidazolium based ionic liquids at room temperature and atmospheric pressure to give the corresponding 2-imidazolones in excellent yield.Congiu et al.[8] reported in vitro antitumor activity of new 1,4-diarylimidazole-2-ones and their 2-thione analogues has been conceded by Compounds bearing a 3,4,5-trimethoxyphenyl ring linked to either N-1 or C-4 position of the imidazole core demonstrated an interesting profile of cyto toxicity with preferential activity against leukemic cell lines. Compound exhibited a potent antitumor activity against MOLT-4 (GI50 = 20 nM) and SR (GI50 = 32 nM) cell lines.

From the review of literature, it was observed that most of the methods of synthesis of 2-imidazolones required longer reflux time of 8-10 hours and the yield of the products was also quite low. Hence, in the context of the above observations, the proposed work was undertaken to reduce the reflux time and to improve the yield of the products by employing Zeolite as a catalyst.

EXPERIMENTAL
Scheme-I :Synthesis of 4, 4'-dimethoxybenzoin.

In a round bottom flask, took 13.6 gms (0.1 mol) of anisaldehyde, added to it about 50 ml of ethyl alcohol. The mixture was shaken well. To this mixture added 4.9 gms aq. solution of sodium cyanide (0.1 mol). The reaction mixture was refluxed for 30-40 minutes. Cooled reaction mixture and poured it to ice cold water, obtained solid yellow product. Recrystallised it from water-ethanol mixture.

Yield: 65%   Melting point: 113°C
Reaction:
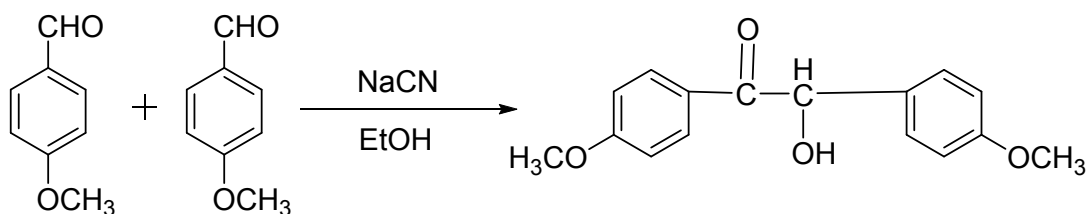
(1a)

5.   **The IR spectrumof the compound (1a)(Spectrum No. 1) showed the following main absorption bands.**

Absorption Observed (cm⁻¹)	Assignment	Literature Value (cm⁻¹)
3427	O–H Str	3570-3400
3066	Ar,C–H str	3100-3000
2920	Aliph, C–H	2980-2840
1653	C=O str	1850-1630
1507	Ar, C=C str	1500-1450
1310	C–O str	1350-1210

6.   **The ^{1}HNMR spectrumof the compound (1a) (Spectrum No. 2) showed the chemical shifts which can be correlated as given below.**

Chemical Shifts (δ)	Multiplicity	Assignment
7.86-7.85	d	4H,Ar–H
7.13-7.12	d	4H,Ar–H
3.87	s	1H, CH–OH
3.37	s	6H, –OCH₃
2.50	s	1H, Aliph, C–H

7.   **Elemental Analysis for $C_{16}H_{16}O_4$ (272.30)**

| Element (%)	C	H
Calculated	70.58	5.92
Found	70.55	5.90
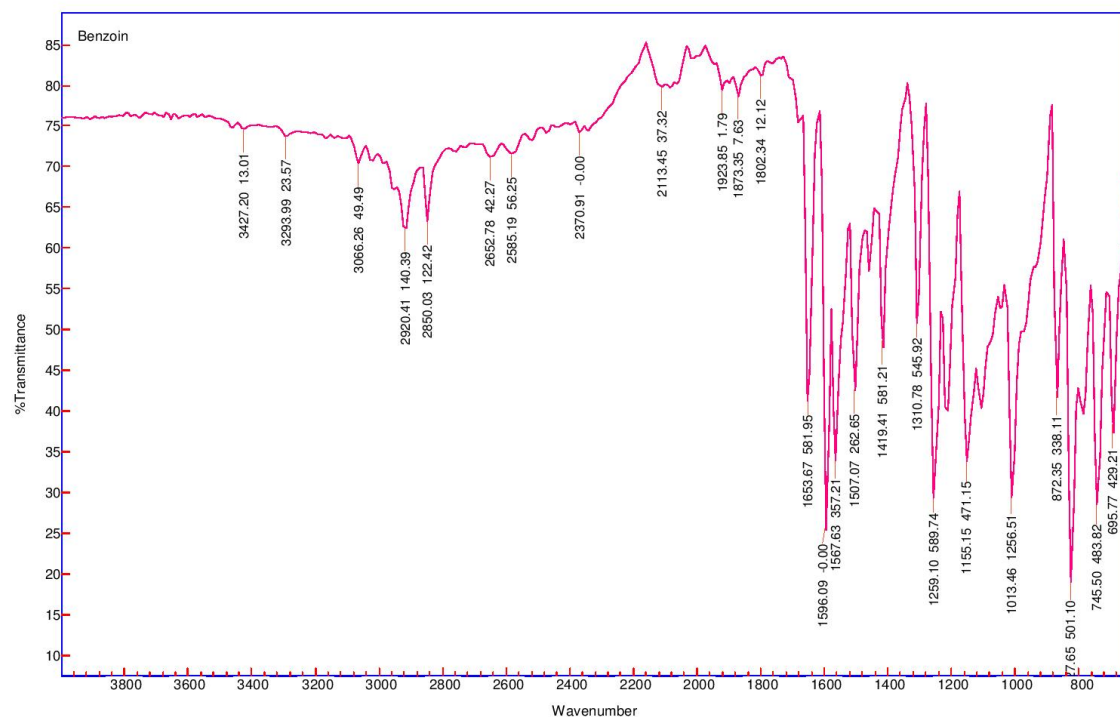
SPECTRUM NO. 1
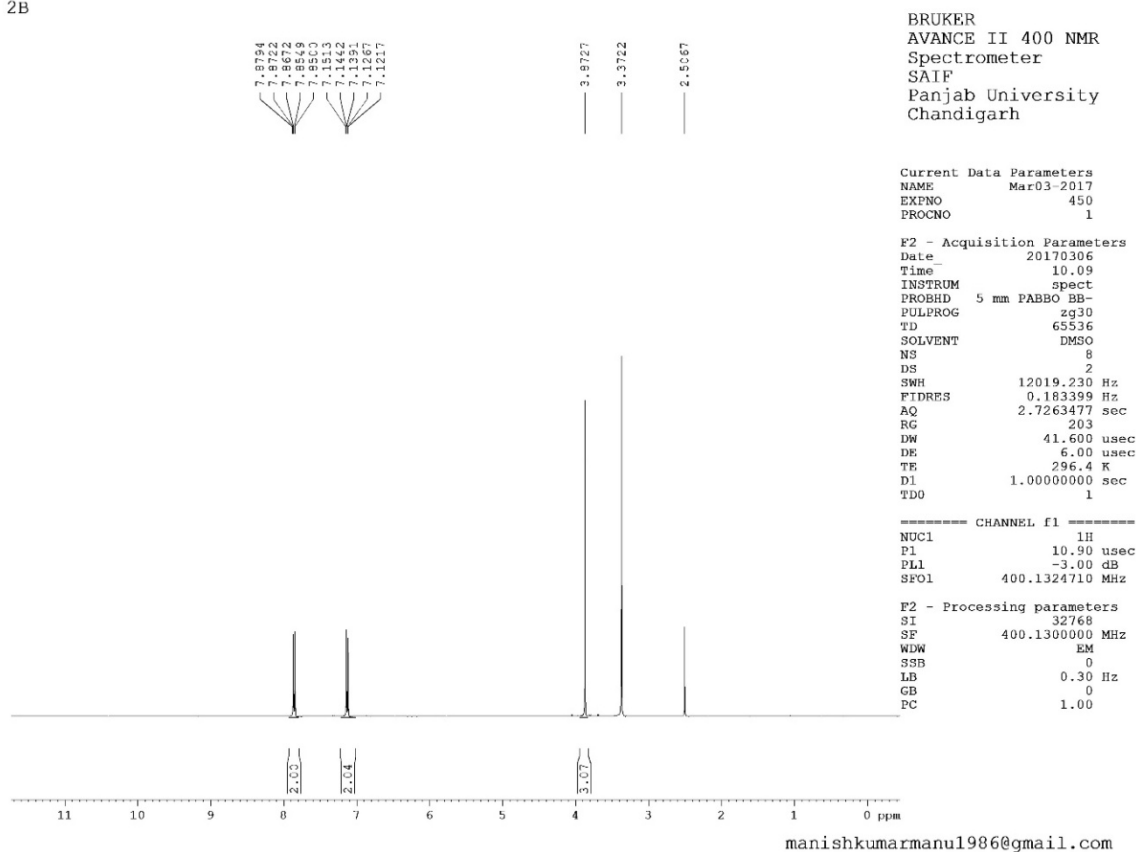
SPECTRUM NO. 2

Scheme-II: Synthesis of 1-H-3-methyl-4(4-methoxyphenyl)-5-(4-methoxyphenyl)-2-imidazolone

Took 4,4'-dimethoxybenzoin 2.72 gms (0.01 mol) in a round bottom flask, added to it glacial acetic acid (20ml). The mixture was warmed slightly to dissolve the solute. To this solution, added methyl urea 0.74 gm(0.01mol), followed by zeolite (1gm) as a catalyst. The reaction mixture was refluxed for three hours. Allowed it to cool and poured it to ice cold water. The solid yellow product formed was filtered, washed 2,3 times with cold water and recrystallized from water-ethanol mixture.

Yield: 62%   Melting point: 180°C

Reaction:

(2a)
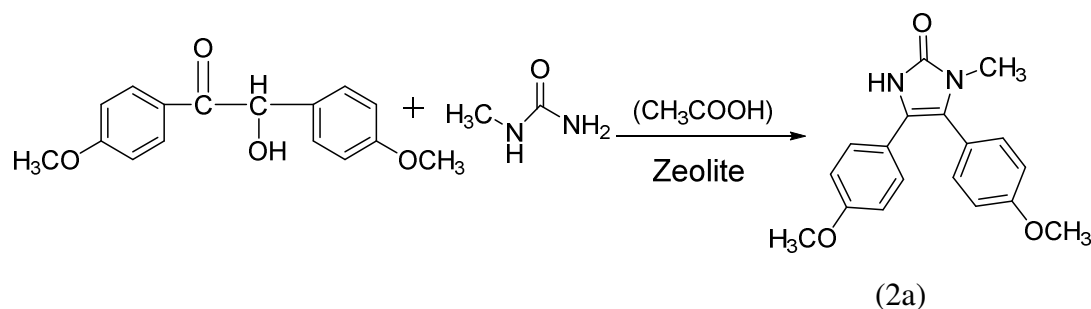
The IR spectrum of the compound (2a) (Spectrum No. 3) showed the following main absorption bands.

Absorption Observed (cm^{-1})	Assignment	Literature Value (cm^{-1})
3650	N–H str	3600-3200
3073	Ar, C–H str	3100-3000
2922	Aliph, C–H str	2980-2840
1678	C=O str	1850-1630
1600	C=N str	1690-1620
1507	Ar, C=C str	1500-1450
1293	C–N str	1360-1310
1245	C–O str	1350-1210

7.   The ^{1}HNMR spectrum of the compound (2a) (Spectrum No. 4) showed the chemical shifts which can be correlated as given below.
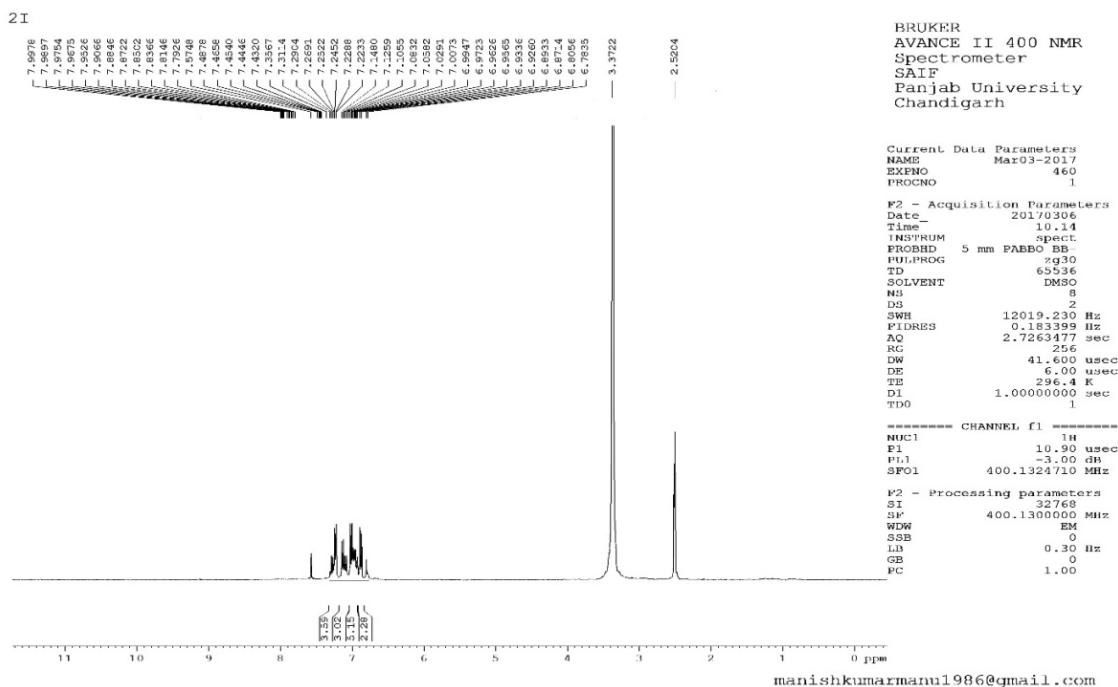
Chemical Shifts (δ)	Multiplicity	Assignment
7.57	s	1H, N–H
7.26-7.22	m	4H, Ar–H
7.17-7.05	m	4H, Ar–H
3.37	s	6H, –OCH$_3$
2.52	s	3H, –CH$_3$

8.   Elemental Analysis for C$_{18}$H$_{18}$N$_2$O$_3$ (310.35)

Element (%)	C	H	N
Calculated	69.66	5.85	9.03
Found	69.62	5.44	9.00
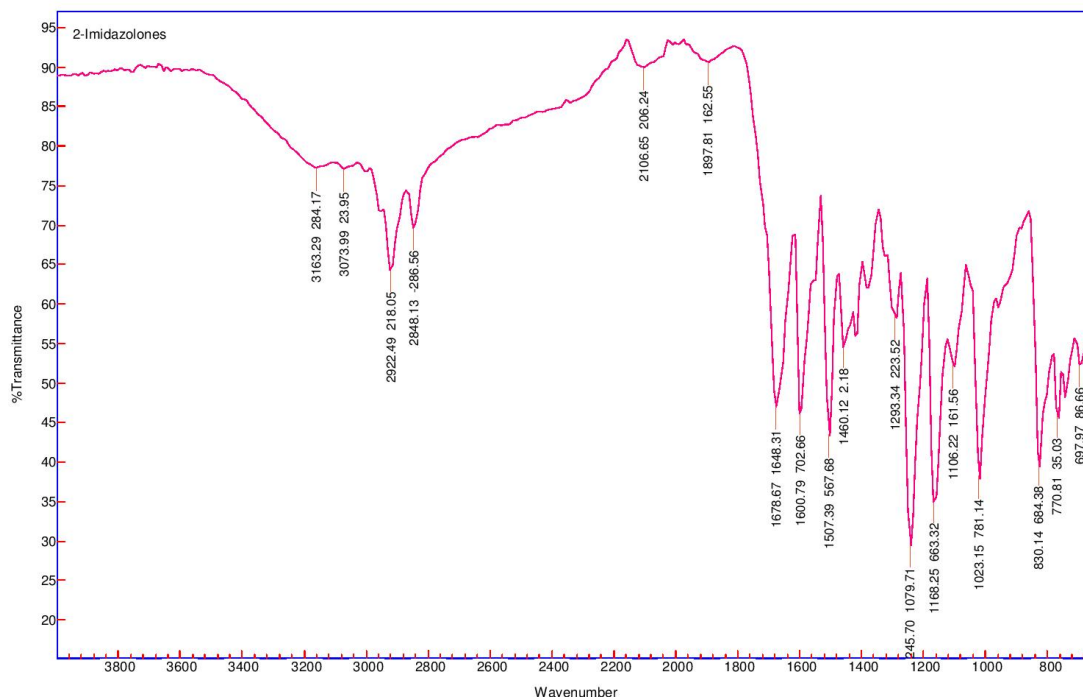
SPECTRUM NO. 3

SPECTRUM NO. 4

Results and Discussion

We synthesized nine variedly substituted -2-imidzolones by the condensation of each of three substituted benzoins with urea, methyl urea and phenyl urea respectively. The target compounds gave positive tests for Nitrogen as well as for C=O linkage (red coloration with 1% solution of m-dinitrobenzene in ethanol)The IR spectrum showed sharp bands at 3650cm[-1](N-H

starching) and 1678cm^{-1} (C=O starching) and 1507 cm^{-1} (Ar, C=C starching) similarly, in ^{1}H-NMR spectrum chemical shifts at 7.97ppm (s,2H,-NH); 7.26ppm (d,4H,Ar-H); 7.05ppm (d,4H,Ar-H); 3.37 (S,6H,-OCH$_3$) with elemental analysis further confirmed the formation 2-imidazolones.

Table 1 :List of synthesized compounds, their % yield and melting points.

Sr. No.	Compound	Percent Yield (%)	Melting Point (°C)
1	1, 3-dihydro-4-phenyl-5-phenyl-2-imidazolone (2b)	70	120
2	1-H-3-methyl-4-phenyl-5-phenyl-2-imidazolone (2c)	65	130
3	1-H-3-phenyl-4-phenyl-5-phenyl-2-imidazolone (2d)	60	160
4	1,3-dihydro-4-(2-hydroxyphenyl)-5-(phenyl)-2-imidazolone (2e)	58	110
5	1-H-3-methyl-(2-hydroxyphenyl)-5-(phenyl)-2-imidazolone (2f)	70	125
6	1-H-3-phenyl-(2-hydroxyphenyl)-5-(phenyl)-2-imidazolone (2g)	60	148
7	1,3-dihydro-4-(4-dimethylaminophenyl)-5-(phenyl)-2-imidazolone (2h)	70	120
8	1-H-3-methyl-(4-dimethylaminophenyl)-5-(phenyl)-2-imidazolone (2i)	62	135
9	1-H-3-phenyl-(4-dimethylaminophenyl)-5-(phenyl)-2-imidazolone (2k)	60	160
10	1,3-dihydro-4-furfuryl-5-(furfuryl)-2-imidazolone (2l)	70	125
11	1-H-3-methyl-4-furfuryl-5-furfuryl -2-imidazolone (2m)	62	140
12	1-H-3-phenyl-4-furfuryl -5-furfuryl-2-imidazolone (2n)	60	175

Antimicrobial Activity
Method for the determination of antimicrobial activity

The newly synthesized eight compounds 2(a) were screened for their antimicrobial activity against the test organisms *E.coli, S.typhi, P.vulgaris, B.subtilis, S.aurus* and *S.penumoniae* by using agar disc diffusion method at concentration of 100 μgm/ml in DMF as a solvent. Each standardized test organism (0.1ml) was spread on the solidified sterile agar plates.

Conclusion

Thus we could succeed in synthesizing variedly substituted-2-imidazolone with simple and easy to workout methodology. Use of Zeolite as a catalyst enabled us rapid route for the synthesis of 2-imidazolones which could reduce reflux time to as low as two and half hours. The catalyst is insoluble in solvent due to which isolation of the product became much easy. The synthesized compounds were screened for antimicrobial activity against the test organisms *E.coli, S.typhi, P.vulgaris, B.subtilis, S.aurus and S.penumoniae*.
The compounds containing –NO2,-Cl and -OH group as a substituent showed antibacterial activity against maximum number of organisms .The compounds containing -OCH3,-N(CH3)2,-NO2 and -OH groups showed maximum activity against *S.typhiB.subtilis and E.coli* pathogens respectively.

Table1 : Antimicrobial activity of 2-imidazolones.
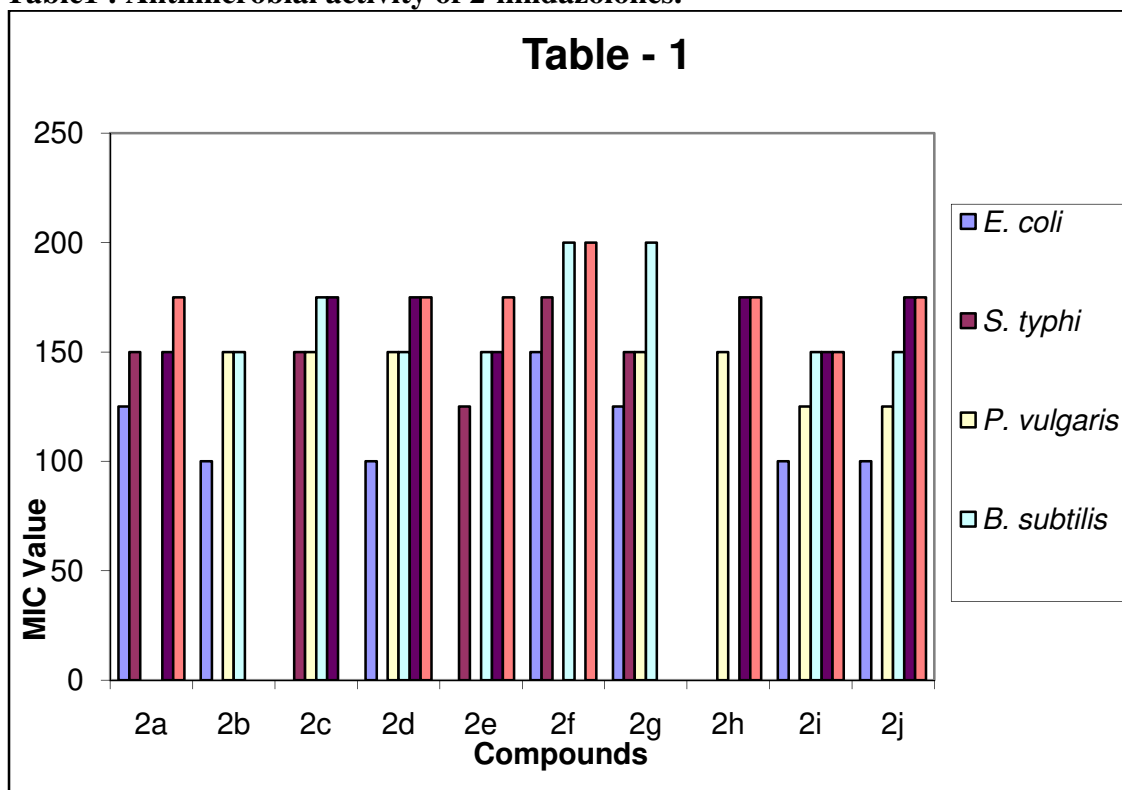
ANTIMICROBIAL ACTIVITY

E. coli

P. vulgaris

B. subtilis

S. aureus

S. pneumoniae

References

1 DAmbrosia M, Guerried A, Debitus C, Chem. Commun, **1993**, 1305.

2 Koswatta PB, Lovely CJ, Nat. Products Reports, 28, **2011**, 511-528.

3 Forte PB, Malgesini B, Piuttic , Papeo G, Mar . Dougs, 7, **2009**, 705-5.

4 Glass D, Buschauer A, Tenar H, Will Saheb L, Krause EG, Arch Pharma (Weinheim) 328(10), **1995**, 709-19.

5 Stoffel PJ and Speziale AJ, J.Org.Chem., 27(9), **1962**, 3079.

6 Jie-Fei Cheng, Christopher Kaiho, Mi Chen, Thomas Arrhenius and Alex Nadzan, Tetrahedron, 43, **2002**, 4571-4573.

7 Inas M AlNashef, MohdAHashim, Farous S Mjalli, Mohammad Q Al-haj Ali, MaanHayyan, Tetrahedron, 51, **2002**, 1976-1978.

8 Congiu C, Cocco MT and Onnis V; Bioorg. Med. Chem. Lett., 18, **2008**, 989.

9 Bauer AW, WMMJC Sherris and M Truck. Antibiotics susceptibility test by a standardized single disc method Am.J.Clin.phthol, 1966; 45: 493-96.

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Language, Art, and Culture in NEP–2020

Dr. Pavan Mandavkar

Principal, Indira Mahavidyalaya, Kalamb, Dist. Yavatmal, Maharashtra, India
President, Sant Gadge Baba Amravati University Marthi Teachers' Association
E mail: pavanmandavkar@hotmail.com Mobile: 9422867658

Abstract:

National Education Policy 2020 aims to revise and revamp the education system of India. In NEP 2020 there is a special focus on regional, national and international languages. The new edcucation system, methods and tools will contain videos, dictionaries, recordings of people speaking the language, telling stories, reciting poetry, and performing plays, folk songs and dances, and more. Universities and their research teams will work with each other and with communities across the country towards enriching such platforms. Scholarships for people of all ages to study Indian Languages, Arts, and Culture will be established. Incentives, such as prizes for outstanding poetry and prose in Indian languages across categories, will be given. Proficiency in Indian languages will be included as part of qualification parameters for employment opportunities.

Keywords: NEP-2020, National Education Policy, Languages, Arts, Culture, vocabulary, grammar

Introduction:

NEP-2020 means National Education Policy 2020 which aims to address the many growing developmental imperatives of India. This Policy proposes the revision and revamping of all aspects of the education structure of the Nation. Development of the creative potential of each individual is expected through this polcy. 'It is based on the principle that education must develop not only cognitive capacities - both the 'foundational capacities' of literacy and numeracy and 'higher-order' cognitive capacities, such as critical thinking and problem solving – but also social, ethical, and emotional capacities and dispositions.'[1]

There is a special focus on the part of Languages, Arts, and Culture in NEP 2020. This paper explains the importance of regional languages as well as National and International languages, different types of arts and culture in the education system of India.

Languages, Arts, and Culture in NEP–2020:

'The National Education Policy 2020 (NEP 2020) has emphasised on the use of mother tongue or local language as the medium of instruction till Class 5 while recommending its continuance till Class 8 and beyond. It recommends that all students will learn three languages in their school under the formula. The three languages learned by children will be the choices of States, regions, and of course the students' themselves.'[2]

Culture in India developed over thousands of years and manifested in the form of arts, literature, linguistic expressions, traditions etc. People from different countries partake in, enjoy, and benefit from this cultural wealth, in the form of visiting India as tourists. They are experiencing Indian hospitality, practicing yoga and meditation, purchasing handicrafts and handmade textiles. They read the classical literature of India. Many of them are inspired by Indian philosophy. They appreciate India's diverse music and art.

'Cultural awareness and expression are among the major competencies considered important to develop in children, in order to provide them with a sense of identity, belonging, as well as an appreciation of other cultures and identities.'[3]

We know the arts form a major medium for imparting culture. The arts are well known to enhance cognitive and creative abilities in individuals and increase individual happiness. The cognitive development and cultural identity of individuals are important reasons that Indian arts

of all kinds must be offered to students at all levels of education, starting with early childhood care and education.

Language is linked to art and culture. Languages influence the way people of a given culture speak with others, including with family members, authority figures, peers, and strangers, and influence the tone of conversation. Culture is, thus, encased in our languages. There is no importance of art, in the form of literature; plays, music, films without language. In order to preserve and promote culture, it is necessary to preserve and promote a culture's languages.

Earlier, Indian languages have not received their due attention and care. We lost over 220 languages in the last 40-50 years. 'UNESCO has declared 197 Indian languages as 'endangered'. Various unscripted languages are particularly in danger of becoming extinct. When senior member(s) of a tribe or community that speak such languages pass away, these languages often perish with them; too often, no concerted actions or measures are taken to preserve or record these rich languages/expressions of culture.'[4]

22 languages of Eighth Schedule of the Constitution of India are facing serious difficulties on many fronts. Teaching and learning of languages need to be integrated with education at every level. High-quality textbooks, workbooks, videos, plays, poems, novels, magazines, etc can play important role. There should be continuous updates in vocabularies and dictionaries.

Language plays a main role in schoolgoing children. No doubt, mothertounge is the first language for basic education of children. 'In secondary school, children can opt for the foreign language of their choice which could be French, German, Spanish, Chinese, and Japanese and this will only be an elective and not in place of the three language formula.'[5]

Other than school education there is a need to delever the higher education in mothertonge. NEP 2020 also throws a light on this issue. 'More HEIs, and more programmes in higher education, will use the mother tongue/local language as a medium of instruction, and/or offer programmes bilingually, in order to increase access and GER and also to promote the strength, usage, and vibrancy of all Indian languages. Private HEIs too will be encouraged and incentivized to use Indian languages as medium of instruction and/or offer bilingual programmes.'[6]

Sanskrit is a language having vast and significant contributions and rich literature. Sanskrit will be mainstreamed with strong offerings in school as well as in higher education including as one of the language options in the three-language formula. It will be taught in innovative ways, and connected to other contemporary and relevant subjects such as mathematics, astronomy, philosophy, linguistics, dramatics, yoga, etc. Departments of Sanskrit that conduct teaching and outstanding interdisciplinary research on Sanskrit and Sanskrit Knowledge Systems will be established or strengthened.

Classical language institutes will aim to be merged with universities, while maintaining their autonomy, so that faculty may work, and students too may be trained as part of robust and rigorous multidisciplinary programmes. Universities dedicated to languages will become multidisciplinary. A new institution for Languages will be established.

For each of the languages mentioned in the Eighth Schedule of the Constitution of India, Academies will be established consisting of some of the greatest scholars and native speakers to determine simple yet accurate vocabulary for the latest concepts, and to release the latest dictionaries on a regular basis. The Academies would also consult with each other and take the best suggestions from the public.

Despite various measures being taken, there has been a severe scarcity of skilled language teachers in India. Language-teaching must be improved and to focus on the ability to converse and interact in the language and not just on the literature, vocabulary, and grammar of the language. Languages must be used more extensively for teaching-learning and conversation.

To enable the key latter initiatives, a number of further actions will be taken. First, an excellent team of teachers and faculty will have to be developed. Strong departments and programmes in Indian languages, comparative literature, creative writing, arts, music, philosophy, etc. will be launched and developed. The programmes will, in particular help to

develop a large cadre of high-quality language teachers - as well as teachers of art, music, philosophy and writing - who will be needed around the country to carry out this Policy.

Outstanding local artists and craftspersons will be hired as guest faculty to promote local music, art, languages, and handicraft, and to ensure that students are aware of the culture and local knowledge where they study.

Differenct quality based programmes and degrees will also be created in Translation and Interpretation, Art and Museum Administration, Archaeology, Graphic Design, and Web Design. To preserve and promote art and culture, high-quality languages materials, develop highly qualified individuals to curate and run museums and heritage or tourist sites, thereby also vastly strengthening the tourism industry.

The knowledge of the rich diversity of India should be imbibed first hand by learners. This would mean including simple activities, like touring by students to different parts of the country, which will not only give a boost to tourism but will also lead to an understanding and appreciation of diversity, culture, traditions and knowledge of different parts of India.

Creating such programmes and degrees in higher education, across the arts, languages, and humanities, will also come with expanded high-quality opportunities for employment that can make effective use of these qualifications. There are already hundreds of Academies, museums, art galleries, and heritage sites in dire need of qualified individuals for their effective functioning.

Now India will expand its translation and interpretation efforts in order to make highquality learning materials. Important written and spoken material will be available in various Indian and foreign languages. For this, an Indian Institute of Translation and Interpretation (IITI) will be established.

All languages in India, and their associated arts and culture will be documented through a web-based platform or portal in order to preserve endangered and all Indian languages and their associated rich local arts and culture. The platform will contain videos, dictionaries, recordings of people (especially elders) speaking the language, telling stories, reciting poetry, and performing plays, folk songs and dances, and more. Universities and their research teams will work with each other and with communities across the country towards enriching such platforms.

Scholarships for people of all ages to study Indian Languages, Arts, and Culture will be established. Incentives, such as prizes for outstanding poetry and prose in Indian languages across categories, will be established. Proficiency in Indian languages will be included as part of qualification parameters for employment opportunities.

Conclusion:

1. NEP 2020 proposes the revision and revamping of all aspects of the education structure of India. Development of the creative potential of each individual is expected through this polcy. There is a special focus on the part Language, Art, and Culture in NEP 2020. It recommends that all students will learn three languages in their school with the choices of States, regions, and of course the students' themselves.

2. Culture in India developed over thousands of years and manifested in the form of arts, literature, linguistic expressions, traditions etc. The arts form a major medium for imparting culture. The cognitive development and cultural identity of individuals are important reasons that Indian arts of all kinds must be offered to students at all levels of education.

3. Language is linked to art and culture. There is no importance of art, in the form of literature; plays, music, films without language.

4. Sanskrit will be mainstreamed with strong offerings in school as well as in higher education including as one of the language options in the three-language formula. Departments of Sanskrit that conduct teaching and outstanding interdisciplinary research on Sanskrit and Sanskrit Knowledge Systems will be established or strengthened.

5. There has been a severe scarcity of skilled language teachers in India, despite various measures being taken. Language-teaching must be improved and to focus on the ability to

converse and interact in the language and not just on the literature, vocabulary, and grammar of the language.

To enable the key latter initiatives, a number of further actions will be taken. Outstanding local artists and craftspersons will be hired as guest faculty to promote local music, art, languages, and handicraft, and to ensure that students are aware of the culture and local knowledge where they study. Differenct quality based programmes and degrees will also be created in Translation and Interpretation, Art and Museum Administration, Archaeology, Graphic Design, and Web Design. The knowledge of the rich diversity of India should be imbibed first hand by learners. Creating such programmes and degrees in higher education, across the arts, languages, and humanities, will also come with expanded high-quality opportunities for employment that can make effective use of these qualifications.

References:

1. https://www.education.gov.in/sites/upload_files/mhrd/files/NEP_Final_English_0.pdf, pp. 4, accessed on 20 Jan. 2023
2.   https://leadschool.in/school-owner/national-education-policy-nep-2020/, pp. 1, accessed on 10 Feb. 2023
3. https://www.education.gov.in/sites/upload_files/mhrd/files/NEP_Final_English_0.pdf, pp. 53, accessed on 20 Jan. 2023
4. https://www.education.gov.in/sites/upload_files/mhrd/files/NEP_Final_English_0.pdf, pp. 53, accessed on 20 Jan. 2023
5.   https://nvshq.org/article/new-national-education-policy-nep-2022/, accessed on 10 Feb. 2023
6. https://www.education.gov.in/sites/upload_files/mhrd/files/NEP_Final_English_0.pdf, pp. 54, accessed on 20 Jan. 2023

Reference Books:

1. Mehrotra Dr. Dheeraj, NEP 2020- At a Glance for Educators, First Edition, 2021
2. Arya Aarti, Jotania Piyush, Nanaware Rajkumar, NEP 2020 - Reformation of Indian Education System, Nexus Publication, Surat, First Edition, 2021
3. National Education Policy 2020, Ministry of Education, Government of India, 2021.

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National Education Policy 2020 in Context of Higher Education: An Overview

Prof. Dr. Ravi Prakash Chapke
Dept. of English
Smt.Vastalabai Naik Mahila Mahavidyalaya, Pusad. Dist.Yeotmal 445204
raviprakash.chapke@gmail.com   Mobile:885585558

Abstract:
The development of India as envisioned by its Constitution—a democratic, just, socially conscious, cultured, and compassionate nation respecting liberty, equality, fraternity, and justice for all—and the promotion of individual and societal well-being depend largely on higher education. The nation's economy and ability to sustain livelihoods are both greatly aided by higher education. Young Indians are more likely to pursue higher education as India transitions to a knowledge economy and society. The policy for higher education calls for a broad-based, multi-disciplinary and holistic undergraduate programme with flexible curricula, inventive subject pairings, integration of vocational education, and multiple entry and exit points with the proper credentials. It must give students the opportunity to study one or more specialised fields of interest in-depth while also fostering the development of character, ethical and constitutional values, intellectual curiosity, a scientific temperament, creativity, a spirit of service, and 21st-century skills in a variety of academic fields, including the sciences, social sciences, arts, humanities, and languages, as well as professional, technical, and vocational subjects.

Key words: NEP, education, interdisciplinary, implementation

National Education Policy (NEP) 2020 is a defining moment in the history of Indian Higher Education and our approach to this policy is commendable as Dr. Kasturirangan, Chairman of the NEP Committee and his associates were involved in drafting the NEP 2020 and made the recommendations that are needed under NEP 2020 was felt for a long time. With the help of effective and time-bound implementation of this policy a new era will begin in Indian higher education, which will be much better than before and will create a new future. NEP 2020 is an outcome of an outstanding vision and an inspiring policy document that will usher in a fundamental change in the landscape of Indian higher education. Under this, the complexity and challenges of the Indian higher education system have been recognized with honesty and clarity. It envisages an approach to bring about a paradigm shift in harnessing the extraordinary potential for human development and the demographic dividend that a country like India has in abundance.

It is essential to overview important key ideas in NEP 2020 to redefine the Indian higher education sector. The following are the crucial ideas in NEP 2020:

- ➢ World-class education with the aim of excellence: It strongly aspires to build a world-class higher education system and believes that it is important and vital for the future of India and for building a knowledge society.
- ➢ Multidisciplinary and Liberal Education: This includes building a liberal, multidisciplinary and inter-disciplinary education ecosystem with emphasis on

studies in STEM ie Science, Technology, Engineering and Medicine as well as Liberal Arts, Humanities and Social Sciences has been imagined.

➢ Regulatory Reforms and Breaking the Public-Private Divide: It has brought about fundamental and significant regulatory reforms in higher education by removing the old barriers and distinctions between public and private universities.

➢ Expansion with Quality Assurance and Access: It focuses on policy related to expansion, access, equity, inclusion and excellence – all of which are equally important goals and aspirations that need to be met simultaneously.

➢ Research Ecosystem: There is an emphasis on a culture of research and innovation, which is central to the vision of higher education in the future. While simultaneously envisaging higher GDP investment in education, efforts have been made to create significant funding incentives and grants for research through the National Research Foundation.

➢ Faculty Focus: Recognizing that faculty members are the most important aspect of the higher education system, it has paved the way for recruitment of excellent faculty with greater focus on mentoring, retention, incentives, achievements and faculty development programmes.

➢ Governance and Leadership: It highlights the importance of governance and leadership in governance and institution-building efforts, in which all aspects of institution effectiveness will depend on leadership and administrative structures.

➢ Academic Freedom and Institutional Autonomy: It underlines the importance of academic freedom and institutional autonomy in funding, curriculum development, student enrolment, and faculty recruitment, with adequate freedom and academic flexibility in determining the duration of degree programs.

➢ Public funding and private philanthropy: It has strengthened the funding framework with increased GDP investment in higher education and recognition of the role of both the public and private sectors with an emphasis on philanthropy.

➢ Internationalization, Accreditation and Digitization: It appreciates the importance of internationalization to foster global partnerships with premier universities across the globe. In this, accreditation of universities and global benchmarking are taken seriously, including rankings. It envisages significant support for digitization of higher education and the need for promotion of online education and upgradation of existing digital infrastructure.

Apart from these above mentioned major reform initiatives, NEP 2020 also redefines the regulatory architecture of the higher education system to create a new and comprehensive and integrated Higher Education Commission, besides renaming the Ministry of Human Resource Development to the Ministry of Education. The NEP paves the way to single overextended supervisory body that will replace the UGC and the AICTE with the single monitor called as the Higher Education Commission of India (HECI). The Higher Education Commission of India will have "4 independent verticals" to carry out the function of - i) Regulation, ii) Funding, iii) Accreditation, and iv) Setting Standards – for learning outcomes.

However, to implement NEP 2020 in line with the vision of Hon'ble Prime Minister and Hon'ble Union Minister for Human Resource Development, it is important to address certain institutional challenges and behavioural aspects. The entire higher education ecosystem and, in particular, government agencies and regulatory bodies need to commit

themselves to the following key areas of change, reform, re-imagining and transformation.

1) Building trust: We need to build a culture of trust, respect and collegiality among government agencies, regulatory bodies and higher education institutions. Presently, this is a major challenge and is adversely affecting all our efforts for an integrated development and a strong higher education system for the country.

2. Transparent and expedient decision making: We need to create a transparent and accountability based mechanism for speedy decision making within government agencies and regulatory bodies in a time bound manner. There are many bottlenecks in this endeavour and precious time is lost in various aspects of decision making.

3. Institutional Independence: We need to empower higher education institutions to take decisions responsibly and accountability vested with the institutions. There is a need to give more power and in that process higher education institutions should be given more responsibility so that they can contribute more effectively towards the implementation of NEP 2020.

4. Active and Participatory Consultation: We need a proactive and participatory consultation mechanism with higher education institutions by government agencies and regulatory bodies, especially when introducing new rules or amending existing rules that affect institutions in any way can do. Stakeholder consultation model in which institutions that are likely to be affected by regulations are required to be consulted in advance prior to the formulation of regulations.

5. Empowerment of IOEs and Autonomous Institutions: We need to empower Institutions of Eminence. There is an urgent need to provide more autonomy and freedom to the universities which fulfil the vision of Indian universities to achieve high position in global rankings.

While the government has an important role to play in managing the national priorities in terms of providing autonomy with the responsibility of developing trust and transparency in the regulatory system among all stakeholders and empowering institutions under a partnership framework, it is not the national education are indispensable to the success of Policy 2020.

An integrated development of a person's moral, social, physical, emotional, and intellectual faculties would be the goal of a holistic and interdisciplinary education. An integrated higher education system that includes professional and vocational education will be the overall goal of the higher education sector. With the aid of such education, individuals will be more well-rounded and equipped with the skills necessary for the 21st century in the arts, humanities, languages, sciences, social sciences, as well as professional, technical, and vocational domains.

The major goal of this policy on higher education is to stop the fragmentation of this sector by making massive interdisciplinary universities, colleges, and HEI clusters/Knowledge Hubs, each of which will aspire to have 3,000 or more students, out of existing higher education institutions. This would enable students to become well-rounded across disciplines—including artistic, creative, and analytical subjects as well as sports—build vibrant communities of scholars and peers, shatter damaging silos, develop active research communities across disciplines, including inter research, and increase resource efficiency—both material and human across higher education.

Effective learning necessitates a thorough strategy that includes a viable curriculum, interesting pedagogy, ongoing formative evaluation, and sufficient student support. To meet the required learning outcomes and stay current with the most recent

knowledge requirements, the curriculum must be engaging, pertinent, and continuously updated. Over the following ten years, vocational education will gradually be included into all schools and higher education institutions. Based on a map of local opportunities and an examination of skills gaps, focus areas for vocational education will be determined.

The globalisation of education is a key component of India's New Education Policy (NEP). With the express purpose of making India a "destination for global study," it encourages excellence through internationalisation. By 2035, higher education will have fully internationalised thanks to the ambitious roadmap outlined in NEP 2020. According to the NEP 2020, a new law would make it easier for the top 100 institutions in the world to operate in the nation, allowing foreign universities to establish campuses in India and halting the brain drain. It enables participation of foreign academics in the Indian educational system. It is assumed that enabling renowned foreign universities to open campuses in India will raise the standard for their domestic competitors and motivate the nation's bright students to remain in the country.

The calibre and commitment of a faculty member is crucial to a higher education institution's success. Recognizing the importance of faculty in fulfilling higher education's objectives, the policy suggests the following actions to ensure that HEIs have the best, most motivated, and most qualified faculty possible. The calibre and commitment of a faculty member is crucial to a higher education institution's success. Recognizing the importance of faculty in fulfilling higher education's objectives, the policy suggests the following actions to ensure that HEIs have the best, most motivated, and most qualified faculty possible. In higher education institutions, a culture of quality and innovation is made possible through strong governance and leadership. Strong self-governance and exceptional merit-based appointments of institutional leaders have been the defining characteristics of all world-class institutions worldwide, including India.

Reference

Pradhan, Dharmendra. "NEP Will Restructure the Education Sector"
https://www.hindustantimes.com/opinion/nep-will-restructure-the-education-sector-101656434339818.html
"NEP 2020 A Revolution in Indian Higher Education System"
https://eduvoice.in/nep-2020-a-revolution-in-indian-higher-education-system
"NEP 2020: Implementation challenges, Ministry of Education".
Indiatoday.in/education-today/feature philia/story/
राष्ट्रीय शिक्षा नीति 2020 : भारतीय उच्च शिक्षा के भविष्य का पुनर्निर्माण
https://www.bhaskarhindi.com/national/news/national-education-policy-2020
राष्ट्रीय शिक्षा नीति और उच्च शिक्षा
https://www.drishtiias.com/hindi/daily-news-editorials/national-education-policy-and-higher-education

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Re-Visiting Indian Education with a STEM:The Game Changer Teaching Methodology in NEP 2020

Kailash Nemade[a], Ved Patki[b]
[a]Department of Physics, Indira Mahavidyalaya, Kalamb Dist. Yavatmal 445401.
[b]Department of Zoology, Indira Mahavidyalaya, Kalamb Dist. Yavatmal 445401.
Corresponding Author E-Mail Address :vedpatki@gmail.com (Dr. VedPatki)

Abstract

Science Technology Engineering Mathematics (STEM) subjects are gradually being acknowledged as being an essential component of education. Consequently, STEM education plays a crucial part in the National Education Policy 2020. When discussing the lack of trained people and subpar education in certain disciplines, the term "STEM education" has become popular. Modern technology is used in STEM education to improve STEM abilities. Additionally, this promotes interest in STEM disciplines.

Keywords: Indian Education; STEM, NEP 2020

1. Introduction

Because of our growing reliance on technology, the world's workforce is now both smaller and more competitive. Likewise, nations must make sure that their future leaders are able to adapt to change, think critically, and work quickly. Science, Technology, Engineering, and Mathematics, or STEM, is a term that was first used in the US in the 1990s. It was formed in the early 2000s as a way to demonstrate how the four disciplines are interrelated. Simply said, STEM illustrates the needs of the future global workforce.

STEM-related job postings have grown by 44% in India between 2016 to 2019. The National Science Foundation estimates that 80 percent of the new occupations developed around the world in the upcoming ten years will involve some kind of math or science. A number of nations, such as the UK, Canada, and Australia, have national STEM strategies to close the skills gap in their workforces [1].

According to NEP, the child's report card must include both objective and skilled or vocational issues. A child's learning was formerly evaluated on the basis of rote memory of the subjects. Currently, it is competency-based, which encourages more analysis and conceptual clarity in the learning graphs of the children. This evaluation goal satisfies the need to enhance the educational system as a whole and brings about ongoing revisions to the teaching-learning process for the growth of a student. STEM fosters the highest performance for evaluation, aids in reviewing and analyzing prior learning, and aids in a child's overall growth [2]. It denotes

- Marks will be nothing more than a number.
- Your child's future is entirely dependent on the knowledge and abilities that he or she can keep. When we refer to someone's skills, we imply how well their theoretical knowledge translates into real-world application.
- STEM education can cover this type of instruction, particularly for areas like science and math. For nations like ours, which have a large youth population, the aforementioned, high-quality education will do best to enrich their talent and do the best resource utility over the next ten years.
- Only school-level instruction will now be provided in the high-quality, practical education that we previously received in colleges and other higher education institutions.

- The experience learning will help shape the young brains and prepare them to apply what they learn to real-world situations.
- The gaps in research and development, which encompass all of the essential elements for any nation's success and development, have been filled by NEP.

Science, Technology, Engineering, and Math. The study of this idea in the classroom using a hands-on, experimental method is referred to as mathematics and STEM education. A STEM curriculum is created to give students as much practical exposure and hands-on experience in a certain profession as feasible. It provides the ideal blending of course modules with a few required lab assignments and group projects, which aid in learning through the application of theoretical information in the real world. Figure 1 depicts the benefits of STEM in education system [3].
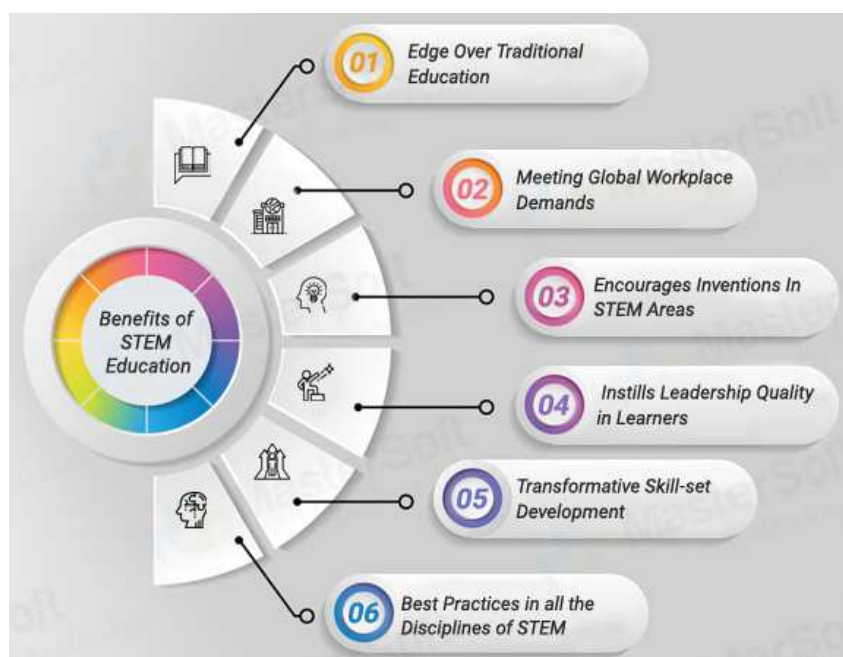
Figure 1. Benefits of STEM in Higher Education.

2. How NEP 2020 Boost STEM Learning in India?

A learning and development strategy called STEM Learning combines the study of science, technology, engineering, and math. Over time, STEM education has developed into a multidisciplinary worldview that is essential for teaching pupils modern problem-solving, creative, and critical thinking abilities.

Though the need and value of STEM education have long been understood, recent widespread technological breakthroughs have made it an essential component of any system of modern education.

There have been several conversations in India about promoting science and cultivating a scientific mindset, but STEM education has not received the attention it deserves in our educational system. While many innovations, such as smart classrooms, e-learning, assessment tools, etc., have been adopted quickly, the expansion of STEM education has not been as quick.

Due to a shortage of fundamental components including curriculum availability, teaching and learning resources, specialized lab infrastructure, Do-it-Yourself (DIY) Kits, etc., STEM education in schools continues to suffer. In fact, STEM education has always been viewed as a distraction in a system that has long prioritized exams and rote memorization. In a sense, this strategy made sure that research culture could never take off and that learning was relegated to the background.

Although this gap has generally been acknowledged and some action has been done in recent years, the eagerly anticipated Nation Education Policy 2020 (NEP) may ultimately prove to be the trigger needed to increase STEM learning in India [4].

3. STEM Education in the National Education Policy

It will be simple to include STEM learning and methodology into the redesigned curricula under NEP 2020. If STEM education is introduced gradually at various levels, the pool of scientists, engineers, and mathematicians will be greatly expanded. The new framework suggests the following policies, among others.

- The new regulation aims to promote hands-on education. In the future, the emphasis will be on learning objectives rather than rote memorization.
- The attention will shift to the fundamentals. The main principles, ideas, applications, and problem-solving will be emphasized. The primary goals of NEP 2020 will be to promote critical thinking and comprehensive, inquiry-based, discovery-based, discussion-based, and analysis-based learning.
- A significant portion of STEM education will revolve around experiential learning and hands-on learning.

Therefore, a multidisciplinary approach is emphasized by the NEP. As a result, conceptual knowledge will be improved, and abilities like creativity, critical thinking, and practical experience will be encouraged. All of these are crucial for STEM education [5].

4. Conclusions

STEM education is essential to every child's growth. Children are today more exposed to technology than ever because to the influence of digital technology in everyday life. They are sort of always around STEM in their daily life. Therefore, it is crucial to inform them of the same. At a younger age, one is more open to and capable of learning. Because of this, it's critical to instill STEM education early on along with self-discipline, manners, and social skills.

Acknowledgements

References

[1] Joseph K Thomas, India's New National Education Policy 2020, The Write Order Publications, (2022).

[2] Pankaj Arora, National Education Policy 2020: Paving Ways For Transformational Reforms, Jain Book Agency, (2021).

[3] Aarti Arya Piyush Jotania, Rajkumar Nanaware, NEP 2020 - Reformation of Indian Education System, Nexus Stories, (2021)

[4] JoohiSamarpita, NEP 2020: Challenges and Solutions, Notion Press, (2022).

[5] T V Kattimani, NEP 2020 The Game Changer, Meru Info Solutions, (2022).

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गाँधीजी की बुनियादी शिक्षा एवं नई शिक्षा नीति — विश्लेषणात्मक अध्ययन

डॉ. हंसा शुक्ला

प्राचार्य

स्वामी श्री स्वरुपानंद सरस्वती महाविद्यालय, भिलाई, छत्तीसगढ

ईमेल — ahansashukla.shukla@gmail.com

''जो शिक्षा चित्त की शुद्धि न करे, निर्वाह का साधन न बनाए तथा स्वतन्त्र रहने का हौसला और सामर्थ्य न उपजाए, उस शिक्षा में चाहे जितनी जानकारी का खजाना, तार्किक कुशलता और भाषा–पांडित्य मौजूद हो वह सच्ची शिक्षा नहीं।'' महात्मा गांधी

गाँधीजी ने शिक्षा पर कोई ग्रन्थ नहीं लिखा जिससे उनके शिक्षा–सम्बन्धी विचारों को क्रमानुसार समझा जा सके। शिक्षा की कोई भी योजना बने, किन्तु शिक्षा के द्वारा बालक में व्यवहार कुशलता का आना आावश्यक है व्यवहार कौशल को प्राप्त करने के लिए बालक को हस्तकार्य, निरीक्षण, अनुभव, प्रयोग, सेवा तथा प्रेम का आश्रम लेना होगा। शिक्षा के संबंध में गांधीजी का तात्पर्य बालक के शरीर, मन तथा आत्मा के सर्वांगीण एवं सर्वोत्कृष्ट से है। नई राष्ट्रीय शिक्षा नीति का मुख्य उद्देश्य बालक की आंतरिक शक्तियों का विकास तथा व्यवहार को परिष्कृत करना है जिससे शिक्षा द्वारा ज्ञान एवं कौशल में वृद्धि कर बालक को योग्य एवं जिम्मेदार नागरिक बनाया जा सके।

शिक्षा का उद्देश्य:—

- स्वावलंबन — गाँधीजी के अनुसार शिक्षा का कोई एक उद्देश्य नहीं हो सकता उन्होंने जीवन के सभी पक्षों को ध्यान में रखा है और शिक्षा के उद्देश्यों को तदनुसार कई दृष्टिकोणों से देखा है। शिक्षा के द्वारा व्यक्ति में स्वावलम्बन का गुण आना आवश्यक है। जब बालक विद्यालयीय शिक्षा समाप्त करे तो वह अपने पैरों पर खड़ा हो सके, इसके लिए उसे व्यावसायिक दक्षता प्राप्त करनी होगी। व्यवसाय में कुशलता प्राप्त करना देश और समाज के लिए तो लाभकारी है ही, स्वयं व्यक्ति के लिए भी आवश्यक है। आत्मनिर्भर बनना ष्मंतजी ूपसम समंतदष् हमारा उद्देश्य नहीं कर्तव्य हैं और यही नई शिक्षा नीति का मुख्य अंग हैं। नई शिक्षा नीति में भी छात्रों में रचनात्मक सोच, तार्किक निर्णय, नवाचार की भावना को प्रोत्साहित करने पर बल दिया गया है जिससे छात्र स्वावलंबी बने।

- सर्वांगीण विकास — गाँधीजी जीवन के किसी एक पक्ष तक ही अपने विचार सीमित नहीं रखते थे वे बालक के सर्वांगीण विकास को शिक्षा का उद्देश्य मानते थे उनके अनुसार शिक्षा का अर्थ शरीर, मन तथा आत्मा सभी का सर्वोत्तम विकास है। किसी एक पक्ष का विकास एकांगी है। नई शिक्षा नीति में विद्यार्थियों के कौशल विकास पर भी ध्यान दिया गया है इससे ज्ञान के साथ कौशल विकास भी जिससे विद्यार्थियों का सर्वांगीण विकास होगा।

- चरित्र निर्माण — गाँधीजी ने अपने आत्मकथा में लिखा है कि 'मैंने हृदय की संस्कृति या चरित्र–निर्माण को सदा प्रथम स्थान दिया है, मैंने चरित्र–निर्माण को शिक्षा की उपयुक्त आधार शिक्षा माना है।'' नई शिक्षा नीति भारतीय मूल्यों से विकसित शिक्षा प्रणाली है जिससे बालक बालिका का चारित्रिक विकास स्वमेव निश्चित है। शिक्षा नीति २०२० का मुख्य लक्ष्य विद्यार्थियों का चरित्र निर्माण है ताकि विद्यार्थियों के जीवन सभी पक्षों और क्षमताओं को संतुलित विकास हो सके। इस नीति का उद्देश्य ऐसे नागरिकों का निर्माण करना है जो विचार व्यवहार कार्य एवं बौद्धिकता से भारतीय बने। नई राष्ट्रीय शिक्षा नीति में शिक्षा के अलग–अलग स्तरों पर सभी विषयों में भारतीय ज्ञान, परंपरा, कला, संस्कृति एवं बात कही गई है।

- मातृभाषा में शिक्षा — गाँधीजी चाहते थे शिक्षा के माध्यम के रूप में भी मातृभाषा को ही स्वीकार किया जाये। विद्यालय में इस प्रकार का वातावरण रहना चाहिए कि बालक मातृभाषा का प्रयोग कर सकें। क्योंकि बच्चा अपनी मातृभाषा में समझायी गयी बातों और निर्देशों को सरलता से समझ सकता है। नई

शिक्षा नीति २०२० में कक्षा–पाँचवी तक की शिक्षा में मातृभाषा/स्थानीय या क्षेत्रीय भाषा को अध्ययन के माध्यम के रुप में अपनाने पर बल दिया गया है। साथ ही इस नीति में मातृभाषा को कक्षा–आठवीं और आगे की शिक्षा के लिये प्राथमिकता देने का सुझाव दिया गया है।

● कौशल विकास – शिक्षण में गाँधी महत्त्वपूर्ण परिवर्तन चाहते थे। वह चाहते थे कि शिक्षण पुस्तकीय न होकर कौशल–केन्द्रित हो। कौशल को वे केवल मनोरंजन का साधन न मानकर चरित्र–निर्माण का भी साधन मानते थे। कौशल कोई भी हो सकता है। भारतीय समाज की दृष्टि से कृषि, कताई–बुनाई, गत्ते को कार्य, लकड़ी का काम, धातु का काम आदि में से एक कौशल को चुना जा सकता है। कताई–बुनाई की ओर विशेष रूचि प्रदर्शित की गयी। कौशल–केन्द्रित शिक्षा के अनेक लाभ हैं इसे युगदृष्टा शिक्षाविद के रूप में गाँधीजी ने भारतीय व्यवस्था के अनुरूप व्यावसायिक कौशल को शिक्षा का महत्त्वपूर्ण अंग माना था एवं प्रत्येक व्यक्ति को किसी न किसी कौशल में दक्षता प्राप्त कर उससे संबंधित कार्य करना चाहिए इसलिये वो मशीनी उत्पादन और औद्योगीकरण का विरोध करते थें।

● स्थानीय समुदाय के आवश्यकता अनुरुप शिक्षा – बुनियादी शिक्षा के पाठ्यक्रम को गाँधीजी ने प्रत्येक स्थानिय समुदाय के आवश्यकता के आधार पर निर्मित किया। स्थानिय आवश्यकता मुख्य आधारभूत शिल्प, खादी, कताई–बुनाई कृषि कार्य लकड़ी मिट्टी के काम, मछली पालन, फल–सब्जी को बागवानी प्रावधान किया। गांधीजी मानते थे यदि शिक्षा स्थानीय आवश्यकता के अनुरुप होगी तो विद्यार्थी स्थानीय आवश्यकता को पूर्ण कर सामाजिक विकास में योगदान दे सकेंगें। नई शिक्षा नीति में भी विद्यार्थियों को स्थानीय आवश्यकता अनुरुप कौशल विकास का प्रस्ताव रखा गया है। नई शिक्षा नीति में आकांक्षीय जिले चिन्हांकित कर वहां विशेष शैक्षिक सत्र चलाया जायेगा जिसका उद्देश्य उन जिलों के स्थानीय आवश्यकता अनुरुप शिक्षित विद्यार्थी तैयार करना है।

● व्यवहारिक शिक्षा – गाँधीजी इस बात के आग्राही थे कि शिक्षा यथासम्भव व्यवहारिक किया कलापों तथा अनुभव पर आधारित होना चाहिए इससे विद्यार्थी इसे शीघ्र सीख पायेंगें। नई शिक्षा प्रणाली में अनुभव आधारित शिक्षण और तार्किक चिंतन को प्रोत्साहित करने पर विशेष ध्यान दिया गया है जिसके तहत कक्षा–छटवीं से ही बच्चों को इंटर्नशीप कराया जायेगा जिससे व्यवहारिक ज्ञान प्राप्त कर सकेंगे। नई शिक्षा नीति में भारतीय ज्ञान प्रणालियाँ जिसमें जनजाति एवं स्वदेशी ज्ञान शामिल होंगे को पाठ्यक्रम में सटीक एवं वैज्ञानिक तरीके से शामिल किया जायेगा।

● शारीरिक शिक्षा – गांधीजी की बुनियादी शिक्षा में शारीरिक शिक्षा को विशेष स्थान दिया गया था। गांधीजी मानते थे स्वथ्य रहने के लिये शारीरिक श्रम एवं खेलकूद आवश्यक है। नई शिक्षा नीति में विद्यालयों में सभी स्तरों पर छात्रों को बागवानी, नियमित रुप से खेलकूद, योग, नृत्य, मार्शल आर्ट को स्थानीय उपलब्धता के अनुसार प्रदान करने की कोशिश की जाएगी ताकि बच्चे शारीरिक गतिविधियों एवं व्यायाम वगैरह में भाग ले सकें।

● पाठ्यक्रम – गाँधीजी के विचार से पाठ्यक्रम ऐसा नहीं होना चाहिए कि उससे केवल बौद्धिक विकास हो। बौद्धिक विकास तो केवल साहित्यिक विषयों से हो सकता है किन्तु उनसे शारीरिक एवं आध्यात्मिक विकास की उपेक्षा नहीं कि जानी चाहिये। महात्मा गाँधीजी मस्तिष्क को शिक्षित करने का प्रयत्न किया है। गाँधीजी के अनुसार, यदि पाठ्यक्रम में किसी क्राफ्ट को केन्द्रीय स्थान दिया जाय तो प्रचलित शिक्षा के दोष दूर हो सकते हैं। अत: उन्होंने कियाप्रधान पाठ्यक्रम की योजना बनायी। नई शिक्षा नीति में विद्यार्थी पाठ्यचर्चा और शिक्षा विधि में सिर्फ सीखने वाले नहीं अपितु सहभागी बनेंगे। पाठ्यक्रम ऐसा होगा जिससे विद्यार्थी ज्ञान, कौशल और मूल्यों का महत्व समझ पायेंगे।

● शिक्षण विधि – प्रचलित शिक्षण–विधि में अध्यापक एवं छात्र में कोई सम्पर्क नहीं रहता। अध्यापक व्याख्यान देकर चला जाता है। छात्र निष्क्रिय श्रोता के रूप में बैठे रहते है। इस प्रकार की दोषपूर्ण शिक्षण–पद्धति के विपरीत गाँधीजी ऐसी शिक्षण प्रक्रिया को लाना चाहते थे जिसमें छात्र और शिक्षक के बीच की खाई कम हो और प्रयोगकर्त्ता के रूप में हो। नई शिक्षा नीति में प्रारंभिक शिक्षा को बहुस्तरीय खेल और गतिविधि आधारित बनाने की प्राथमिकता दी गयी है। इस नीति में माध्यमिक स्तर से व्यवसायिक शिक्षा को शामिल किया गया है तथा कला विज्ञान एवं व्यवसायिक विषयों की गतिविधियों में

अंतर को कम किया गया है। छात्रों के सीखने की प्रवृत्ति को बेहतर बनाने के लिये नियमित और रचनात्मक आकलन प्रणाली को पहनाने का सुझाव दिया गया है जिससे विद्यार्थियों में तार्किक क्षमता और सैद्धांतिक स्पष्टता का विकास हो सके। गांधीजी भी शिक्षा में विभिन्न विषयों की शिक्षा पृथक् विषय के रूप में न होकर समन्वित ज्ञान के रूप में हो इसके पक्षधर थे।

उपसंहार —

"गाँधीजी की बुनियादी शिक्षा को नई राष्ट्रीय शिक्षा नीति २०२० का ब्लु प्रिंट कहा जा सकता है।" गाँधीजी मानते थे कि साक्षरता अपने आप में शिक्षा नहीं है बल्कि शिक्षा से बालको में नैतिक गुणों का विकास होना चाहिये, बच्चे का शारीरिक, मानसिक और आध्यात्मिक विकास ही शिक्षा है। शिक्षा के संबंध में गांधीजी का तात्पर्य बालक और मनुष्य के शरीर, मन तथा आत्मा के सर्वांगीण एवं सर्वोत्कृष्ट विकास से है। नई राष्ट्रीय शिक्षा नीति उन उद्देश्यों को पूरा करने में सक्षम होगी जिसका स्वप्न महात्मा गांधी ने देखा था। नई शिक्षा नीति का क्रियान्वयन सफल तरीके से होता है तो वर्तमान आधुनिक क्षेत्रों में कुशल पेशेवर तैयार होंगे, भारतीय उद्यमी विश्व पटल पर जाने जायेंगे तथा युवाओं की रोजगार क्षमता में वृद्धि होगी। गांधीजी के परिकल्पना अनुरुप नई शिक्षा नीति प्रत्येक व्यक्ति में निहित रचनात्मक क्षमता के विकास पर जोर देती है। शिक्षा से ना केवल साक्षर बने बल्कि विद्यार्थियों में उच्चस्तर की तार्किक और संज्ञानात्मक क्षमताओं का विकास हो जिससे वे समस्या का समाधान ढूंढ सके। विद्यार्थियों में नैतिक, सामाजिक और भावनात्मक गुणों का विकास हो जिससे वे भारत के जिम्मेदार नागरिक बन सके तथा भारत वैश्विक ज्ञान महाशक्ति का केन्द्र बने। इस नीति का उद्देश्य है छात्रों में भारतीय होने का गर्व केवल विचार में नहीं बल्कि व्यवहार और कार्य में हो।

संदर्भ ग्रंथ:—

(१) शिक्षा के नूतन आयाम — डॉ. नरेश चन्द्र त्रिपाठी एवं डॉ. विश्वनाथ बिहारी लाल — विनोद पुस्तक मंदिर — आगरा

(२) शिक्षा में नवाचार एवं नवीन प्रवृत्तियॉं — भाई योगेन्द्रजीत — अग्रवाल पब्लिकेशन, आगरा

(३) शिक्षा की दार्शनिक एवं समाजशास्त्रीय पृष्टभूमि — डॉ. रामशकल पाण्डेय — अग्रवाल पब्लिकेशन, आगरा

(४) नई शिक्षा नीति — डॉ. रामशकल पाण्डेय — विनोद पुस्तक मंदिर — आगरा

(५) भारतीय शिक्षा–नीति — डॉ. शरदेन्दु किसलय एवं अनुपम पाण्डेय — डिस्कवरी पब्लिशिंग हाउस, अंसारी रोड, दरियागंज, नई दिल्ली

(६) शिक्षा के दार्शनिक परिप्रेक्ष्य — पूनम मदान, विजय गुप्ता व रोमा श्रीवास्तव — अग्रवाल पब्लिकेशन, आगरा

(७) Philosophical and sociological foundation of education – N.R. Swaroop Saxena – R. Lall Book Depot – Meerut

(८) Philosophical foundation of education – Dr. Girish Pachauri - R. Lall Book Depot – Meerut

(९) https://imaginxp.com>education

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Innovation in Mathematics Teaching & Learning Process in Higher Mathematics Education Through New NEP-2020

Rupesh R. Atram
Assistant professor of Mathematics
Indira Mahavidyalaya, Kalamb
Dist- Yavatmal, Maharashtra India 445001

Abstract:

The main purpose of this paper is to highlight the status of Higher Mathematics Education in India before and after the new education policy-2020 especially connecting paths between NEP-1968, 1986 , and 2020 with references for mathematical education in college and university level. The way higher mathematics teaching and learning changes from time to time along with acceptance of new techniques for teaching and learning which will be suggested in different education policies.

Key Words: Higher Mathematics , NEP-2020, MatLab, GeoGebra,WolframAlpha etc

Introduction:

The first national education policy was announced in 1968 by the government of Indira Gandhi , this policy based on the Kothari Commission (1964-66).
NEP-1968 was famous for
- Radical Reconstructivity
- Equal Education Opportunity

The Second Education Policy was Introduced in 1986 . Actually this was the modification of NEP-1968 by the government of Rajiv Gandhi. This policy seriously talk about two things
- About removal of disparities
- To provide education opportunities especially women/backward and minority classes

Modification of NEP-1986 by the government of P.V.Narsimha Rao based on the Ram murti Commission led by chairperson shri Jaganath Reddy.
 One of the major measures taken by this policy 1992 is Adding a common entrance exam for professional and technical programmes like Engineering entrance ,medical Entrance etc.
 NEP-2020 by the government of shri Narendra Modi.It is replacement of NEP-1986 (after 34 years) it is the first education policy by the BJP government.
Some key proposals for NEP-2020
- 5 + 3 + 3 + 4 year format
- UG degree courses available for 3 & 4 year duration with multiple entry and exit option
- Higher education institute now have the option of offering a 1-year masters degree
- Govt discontinue M.phil Program
- There will be no hard separation between arts and sciences stream

Development of Mathematical Institutes in India - Government of india had taken some important action towards development of mathematics by establishing different mathematical institute

TIFR - Tata Institute of Fundamental Research the institute was founded in 1945 by the government of India under the support of Sir Dorabji Tata Trust Under the vision of Dr.Homi Bhaba.

NMHM - National Board of Higher Mathematics was set up by the government of India under the Department of Atomic Energy (DAE) in 1983. To foster the development of higher mathematics in the country to formulate policies of the development of mathematics
 Indian Mathematics Olympiad has been conducted through **NBHM every** year since 1989.

CMI - Chennai Mathematical Institute- it is centre of excellence in Teaching and learning Mathematics founded in 1989 under the SPIC Science foundation it has been an autonomous institute since 1996.

IISER- Indian Institute of Science Education and Research , Pune is an autonomous research institute established in 2006. It is one of the seven Indian Institute of Science Education and Research   IISER-Pune houses advanced research centre **CoESME** that is centre for Excellence in Science and Mathematics Education

Above mentioned mathematical institute is carrying out mathematics research in different maths fields like
1. Algebra   2. Real Analysis   3. Number Theory
4. Topology   5. Fractional Calculus
6.Differential Equations
7. Graph Theory   8. Spectral Graph Theory
    This shows the new opportunities available for mathematics students to Research in Pure and Applied Mathematics.

Teaching Mathematics Using Technology
Some lists for mathematical software that are very useful tools as far as mathematics teaching and learning is concerned.

Use of Software in the preparation of Bachelor of Mathematics [1]

Coure	Software
1.Linear Algebra	1. GeoGebra 2. Maple
2. Mathematical Analysis , Graduate level Calculus	1. Mathcad 2. MathLab 3. Mathematica 4. Maxima
3.Mathematical programming, Operational Research	1. GeoNext 2. MS-Excel 3. MathLab
4.Computer Practical Work	1. Maple 2. GeoGebra 3. Live Mathematics
5. Analytical Geometry	1. GeoGebra 2. Maple

Table 1 - Software for Bachelor Of Mathematics

Introducing CAS (Computer Algebra System), a special kind of mathematical application providing students and teachers a means for doing symbolic , Algebraic and Graphical Manipulation with computers that menace instead of just counting numbers CAS system can also manipulate Complex Calculation Exactly. [2]

Software	Year of start	Utility
Mathematica*	1998	General purpose CAS
Maple*	1985	CAS
MuPAD*	1993	CAS
MatLab*	Late 1970	CAS
MathCAD*	1985	CAS
Magma*	1993	Algebraic Number Theory
SCiLab	1994	CAS
Maxima	1998	CAS
GAP	1986	Group Theory
GP/PARI	1985	Number Theory
Kash/Kant	2005	Algebraic Number Theory
CoCoA	1995	Polynomial Calculation
Dynamic Solver	2002	Differential Equation
R	1993	Statistics
WolframAlpha	2009	CAS
GeoGebra	2001	CAS

Here star (*) means commercial software and others are free software.

Geogebra:

It is a mathematical software which is very useful to teach mathematics with visualization, it helps students to draw graphs of higher degree equations. It is very easy to operate for both teachers and students. in higher mathematics or in research in mathematics like applied mathematics differential equations , trigonometric equations , probability theory , graph theory

We can use Geogebra to find graphical solutions easily. Here is an example given in below picture

How to plot graphs like quadratic equations is shown .
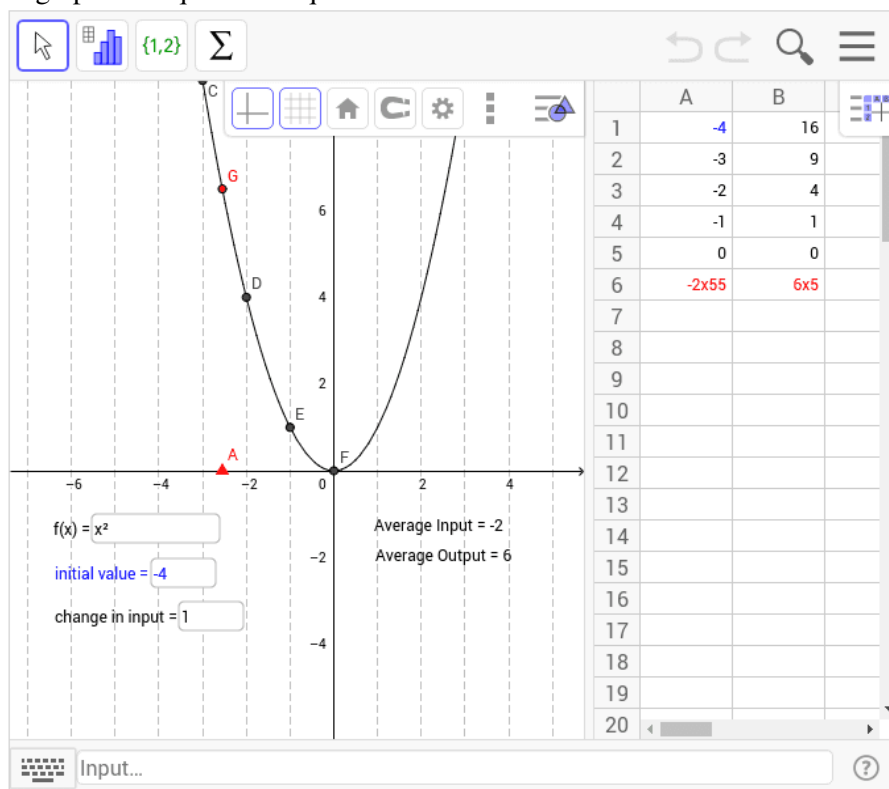
Fig 1 shows Geogebra Interface for Quadratic graph

WolframAlpha —
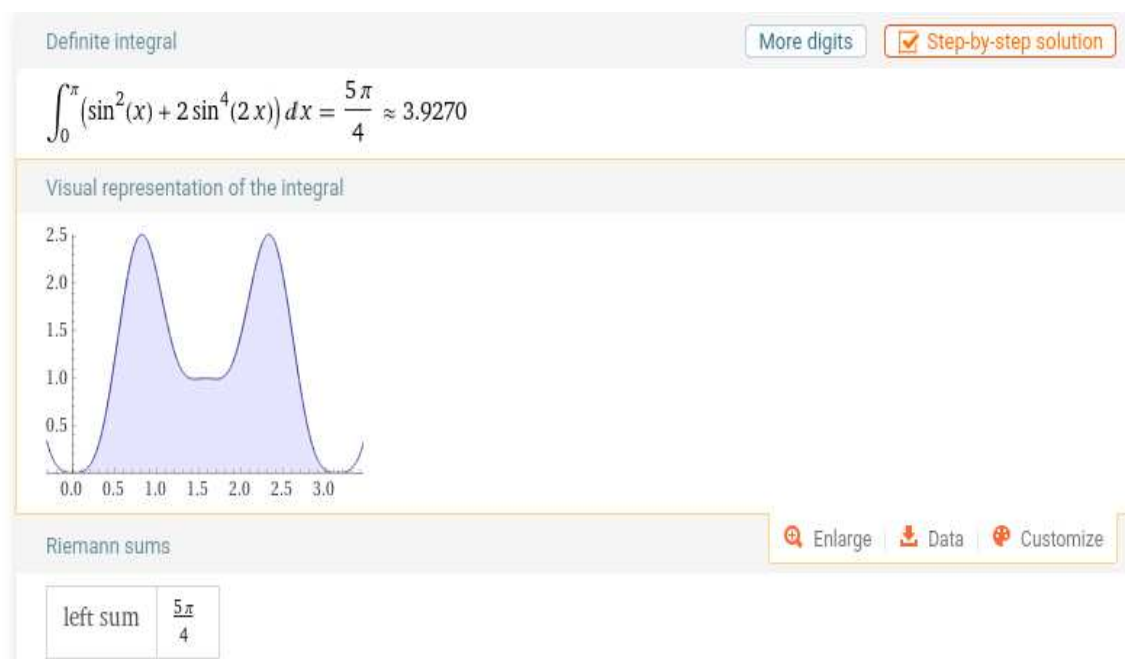
Fig 2 shows an example from WolframAlpha software.

Using this software, students can visualize graphs of complicated functions and try to understand the core concept of the mathematics and concept behind the problem. These software must be learned by graduate level students, especially research scholars.

MATLAB- here is one example from matlab software .

```matlab
% Create data and 2-by-1 tiled chart layout
x = linspace(0,3);
y1 = sin(5*x);
y2 = sin(15*x);
tiledlayout(2,1)

% Top plot
ax1 = nexttile;
plot(ax1,x,y1)
title(ax1,'Top Plot')
ylabel(ax1,'sin(5x)')

% Bottom plot
ax2 = nexttile;
plot(ax2,x,y2)
title(ax2,'Bottom Plot')
ylabel(ax2,'sin(15x)')
```
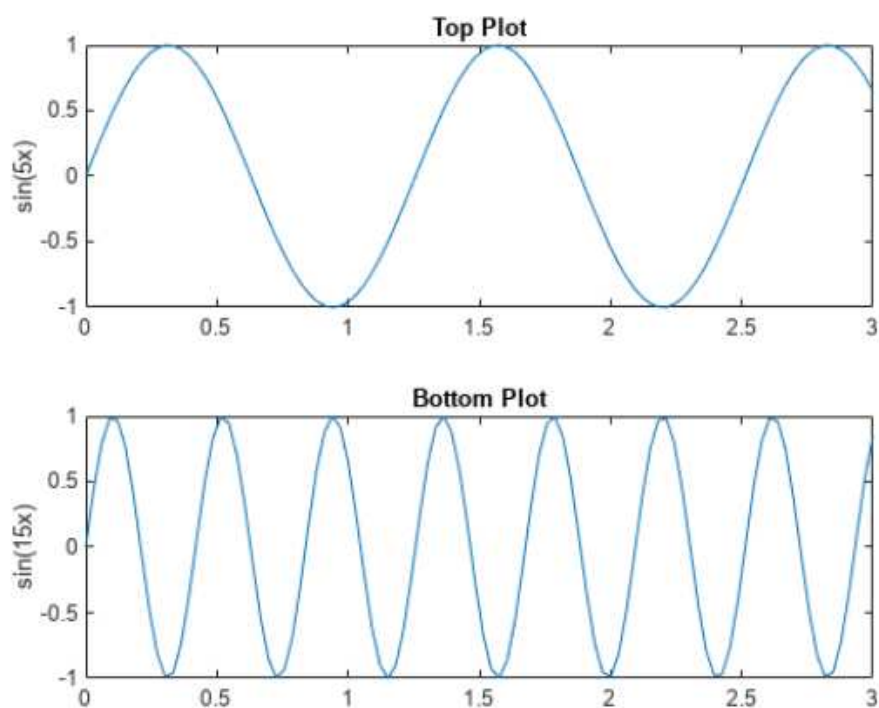
Fig 3 plotting graph using MatLab

NEP 2020 and Pedagogy for Mathematics - here is one diagram that shows the relation
between pedagogical knowledge , mathematical content knowledge,mathematical knowledge for
teaching, personal orientations , technology instrumental genesis and pedagogical technology
Knowledge. How it is important for a mathematics teacher to go through the content given in the
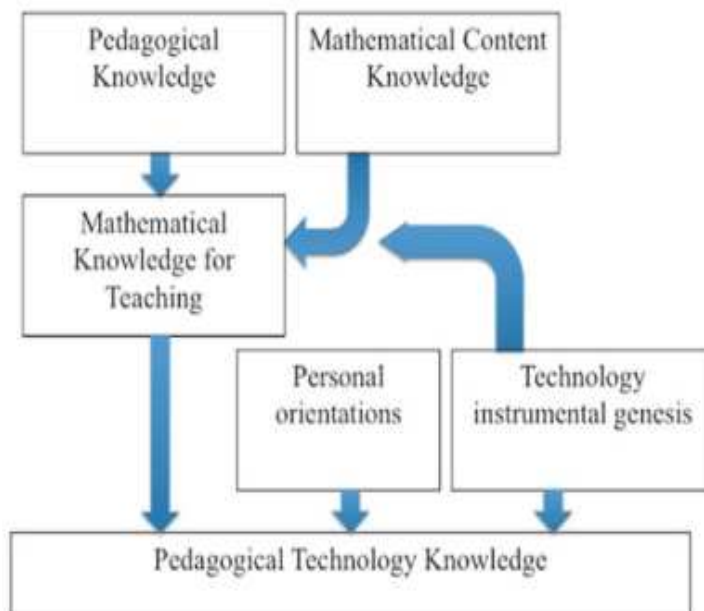diagram. [3]

Fig 4   Padagogi for Mathematics using Technology

CONCLUSION

The main purpose of NEP 2020 is to enhance the all round development of students . students must be aware about 21st century skills and to develop these skills mathematics education helps a lot. The role of a mathematics teacher is very important , because the

Teachers must adopt new mathematics teaching pedagogy,Try to become masters at handling new mathematics software. And try to modify teaching to the next level so that NEP-2020 will get valued for its existence. On the other hand, the government must provide different softwares excess in colleges and universities to a great extent. Connect mathematical Institute like TIFR,NBHM,ISER to the rural area colleges through the mathematical activities , research and mathematics teaching.

References

[1] Semenikhina, E., & Drushlyak, M. (2014). Computer Mathematical Tools: Practical Experience of Learning to Use Them. *European journal of contemporary education*, *9*(3), 175-183.

[2] Kumar, A., & Kumaresan, S. (2008). Use of mathematical software for teaching and learning mathematics. *ICME 11 Proceedings*, 373-388.

[3] Clark-Wilson, A., Robutti, O., & Thomas, M. (2020). Teaching with digital technology. *Zdm*, 1-20.

[4] Engelbrecht, J., Llinares, S., & Borba, M. C. (2020). Transformation of the mathematics classroom with the internet. *Zdm*, *52*, 825-841.

[5] wikipedia.

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नव्या शैक्षणिक धोरणाच्या अंमलबजावणीपुढील आव्हाने

डॉ. वीरा मांडवकर

सहायक प्राध्यापक

इंदिरा महाविद्यालय, कळंब, जि. यवतमाळ, महाराष्ट्र (India)

इ मेल veeranmandavkar18@gmail.com मो. 9403014885

गोषवारा -

गेल्या वर्षीच्या जुलै महिन्यामध्ये भारताने २१व्या शतकातील पहिले व सर्वात व्यापक शैक्षणिक धोरण जाहीर केले. १९८६ नंतर पहिल्यांदाच असे शैक्षणिक धोरण जाहीर करण्यात आले. या धोरणामध्ये भारताच्या शिक्षण व्यवस्थेला भेडसावणार्‍या विविध आव्हानांवर उपाय सुचवण्याचा प्रयत्न करण्यात आला. विद्यार्थ्यांच्या क्षमतांनुसार शिक्षण ही यामागील प्रमुख संकल्पना आहे. या धोरणांमुळे शिक्षण सर्वसमावेशक आणि सर्वांच्या आवाक्यातले होण्यास मदत होईल. युवा पिढी ही भारताचे भविष्य आहे, त्यामुळे त्याचे शिक्षण हे भारताच्या सर्वांगिण विकासाच्या दुष्टीने अत्यंत महत्त्वाचे आहे. हे धोरण स्थानिक भाषांमध्ये शिक्षण देण्यास विशेष प्रयत्नशील आहे. तसेच यात 'अकॅडेमिक बँक ऑफ क्रेडिट' ही संकल्पना उदयास आणली आहे. हे नवे शैक्षणिक धोरण अत्यंत प्रभावी आणि उपकारक असूनही ते राबवताना अनेक अडचणी त्याच्यासमोर येणार आहेत. मुख्य म्हणजे लोकसंख्या बहुल भारतातील शिक्षण व्यवस्था ही जगातील दुसर्‍या क्रमांकावरील शिक्षण व्यवस्था आहे. इतक्या मोठया प्रमाणात हे नवे शैक्षणिक धोरण राबविणे हे मोठे आव्हान आहे. दुसरे म्हणजे निधीची कमतरता, तिसरे म्हणजे शिक्षण व्यवस्था चालवणार्‍या लोकांचा व सोबतच शिक्षक, विद्यार्थी व पालकांचा पारंपरिक दृष्टिकोन बदलणे, चौथे आव्हान भारतातील सर्वच राज्य, संघराज्य, युनियन टेरेटरीज यांचा सहयोग मिळेलच अशी शक्यता कमी, पाचवे म्हणजे या धोरणाच्या प्रक्रियेसाठी खाजगी क्षेत्राचे योगदान मिळवणे व यातील एक महत्त्वाचा भागीदार म्हणून खाजगी क्षेत्राच्या योगदानाला मान्यता देणे हे एक आव्हान आहे. तसेच येत्या दशकात वाढणारी संसाधनांची गरज भागविता यण्यासाठी आत्तापासून पावले उचलणे हेही शिक्षणव्यवस्थेसमोरचे मोठे आव्हान आहे. या सर्व आव्हानांवर ही शिक्षणव्यवस्था कोणता मार्ग काढू शकते आणि नव्या शैक्षणिक धोरणाची अंमलबजावणी करू शकते, यावर या शोधनिबंधात प्रकाश टाकण्याचा प्रयत्न केला आहे.

बीजशब्द - धोरण, अंमलबजावणी, संसाधने, विद्यार्थी, शिक्षक, परिवर्तन, उददीष्टे, शिक्षण, गरज, बदल

प्रस्तावना -

आपण स्वातंत्र्याच्या 76 व्या वर्षामध्ये पदार्पण करत आहोत, एका प्रकारे नव्या शैक्षणिक धोरणाची अंमलबजावणी करणे हा आता अत्यंत महत्त्वाचा भाग बनला आहे, नवीन भारत आणि

भविष्यासाठी तयार युवा पिढी घडवण्याच्या दृष्टीने हे धोरण महत्त्वाची भूमिका बजावणार आहे. याद्वारे प्रत्येक विद्यार्थ्यांच्या क्षमतांचा योग्य वापर, शिक्षणाचे सार्वत्रिकीकरण, क्षमता विकास आणि शिक्षणाच्या माध्यमांमध्ये परिवर्तन घडून येणार आहे. या धोरणामुळे शिक्षण सर्वसमावेशक, किफायतशीर, परवडण्याजोगे आणि न्याय्य होण्यास मदत होईल. आत्तापर्यंत या क्षेत्रात कशी प्रगती झाली आहे? हे धोरण खरेच प्रगतीपथावर आहे का? येत्या काही दशकांमध्ये या धोरणासमोरील आव्हाने कोणती असणार आहेत, असे प्रश्न या धोरणाच्या अंमलबजावणीआधी सगळ्यांना पडले आहेत. पण नव्या शैक्षणिक धोरणाच्या अंमलबजावणीचे यश सहकारी संघराज्य प्रणाली व सुधारणांमध्ये योगदान देण्याची राज्यांची क्षमता यांवर अवलंबून आहे.

नव्या शैक्षणिक धोरणाच्या दिशेने महत्त्वाची वाटचाल

1. हे धोरण जाहीर झाल्यापासून गेल्या 2 वर्षांमध्ये कोरोना महामारीचा सामना करत या धोरणामधील काही महत्त्वाचे टप्पे पूर्ण करण्यात आले आहेत. सर्वांत महत्त्वाचे म्हणजे नव्या शैक्षणिक धोरणातील ध्येये आणि दृष्टीकोन याबाबत विविध भागधारकांमध्ये जागरूकता आणि हितसंबंध निर्माण करण्याच्या दृष्टीने सरकारने चांगली कामगिरी बजावली आहे.

2. नव्या शैक्षणिक धोरणानुसार शालेय अभ्यासक्रमात कृत्रिम बुद्धिमत्ता आणि आर्थिक बाबींचा समावेश करण्यात आला आहे.

3. नव्या आर्थिक धोरणामध्ये मातृभाषा किंवा प्रादेशिक भाषेला अधिक प्राधान्य देण्यात आले आहे. काही राज्यांमध्ये प्रायोगिक तत्त्वावर हा उपक्रम सुरू करण्यात आला आहे.

4. शिक्षण मंत्रालयाने बहुचर्चित 'अकॅडेमिक बँक ऑफ क्रेडिट' हा उपक्रम आणला आहे. या उपक्रमाद्वारे उच्च शिक्षणातील अनेक पर्याय विद्यार्थ्यांसाठी खुले होऊ शकतील.

5. याशिवाय इयत्ता तिसरीपर्यंत विद्यार्थ्यांचे वाचन, लेखन आणि संख्याशास्त्र शिकण्याची क्षमता सुधारण्यासाठी 'निपुण भारत मिशन', पहिलीला प्रवेश घेणाऱ्या विद्यार्थ्यांच्या तयारीसाठी तीन महिन्यांचा अभ्यासक्रम 'विद्या प्रवेश', शिक्षण अध्यायनासाठीचे 'दीक्षा' हे अॅप आणि माध्यमिक स्तरावरील शिक्षकांसाठी 'निष्ठा' हा शिक्षक प्रशिक्षण कार्यक्रम असे अनेक उपक्रम सरकारकडून आणण्यात आले आहेत. सध्या नव्या शैक्षणिक धोरणाची अंमलबजावणी करणारे कर्नाटक हे पहिले राज्य ठरले आहे. अलीकडेच नव्या शैक्षणिक धोरणातील काही उपक्रमांची अंमलबजावणी मध्यप्रदेश आणि हिमाचल प्रदेश या राज्यांनी करून या मेगा पॉलिसीच्या अंमलबजावणीला हातभार लावलेला आहे. एकुणच टप्प्याटप्प्यात भारतातील विविध राज्ये नव्या शैक्षणिक धोरणाकडे वाटचाल करताना दिसत आहेत.

महत्त्वाची आव्हाने

सध्या नव्या शैक्षणिक धोरणाच्या अंमलबजावणीने जरी जोर धरलेला असला तरीही ते पूर्णत्वाला जाण्याच्या मार्गावर अनंत आव्हाने आहेत. भारताच्या शैक्षणिक क्षेत्रातील विविधता आणि आकार लक्षात घेता या धोरणाची अंमलबजावणी हे एक अवघड काम असणार आहे. तसेही प्रस्थापित व्यवस्थेत जेव्हा

बदल घडवायचे असतात, तेव्हा ते सकारात्मक असले तरीही प्रत्यक्षात उतरवताना अनेक अडचणी, आव्हाने, मर्यादा, टीका याचा सामना करावा लागतो. अशाच काही आव्हानांवर पुढे चर्चा करण्यात आली आहे.

1. १५ लाखाहून अधिक शाळा, २५ करोड विद्यार्थी आणि ८९ लाख शिक्षकांसह भारतातील शिक्षण व्यवस्था ही जगातील दुसर्‍या क्रमांकावरील शिक्षण व्यवस्था आहे. उच्च शिक्षण व्यवस्थेचा आकारही फार मोठा आहे. एआयएसएचई २०१९ च्या अहवालानुसार, भारताच्या उच्च शिक्षण क्षेत्रात जवळपास १००० विद्यापीठे, ३९,९३१ महाविद्यालये आणि १०,७२५ स्वायत्त संस्थांमध्ये मिळून ३.७४ करोड विद्यार्थी शिक्षण घेत आहेत. राज्य, जिल्हा तसेच तालुका स्तरावरील सर्व भागधारकांना एकत्र आणून या नव्या शैक्षणिक धोरणाची अंमलबजावणी करणे ही एक अत्यंत कठीण बाब ठरणार आहे. विलक्षण विविधता असलेल्या राज्यांमधील तसेच जिल्हास्तरावरील विविध भागधारकांमध्ये सामायिक जबाबदारी व मालकीची भावना निर्माण करणे हे शिक्षण मंत्रालयासाठी मोठे आव्हान असणार आहे.

2. दुसरी महत्त्वाची गोष्ट म्हणजे नव्या शैक्षणिक धोरणाची अंमलबजावणी देशांच्या, राज्यांच्या आणि सरकारांच्या क्षमतेवर अवलंबून आहे. भारताच्या शिक्षण व्यवस्थेमध्ये निधीची कमतरता आहे, संपूर्ण व्यवस्था ही नोकरशाहीवर आधारलेली आहे व नवीन कल्पना आणि वाढीच्या क्षमतेस शिक्षण व्यवस्थेत प्रतिकूल वातावरण आहे.

3. नव्या शैक्षणिक धोरणामध्ये कल्पना केलेल्या परिवर्तनांच्या विशालतेला चालना देण्यासाठी शिक्षण मंत्रालये (केंद्र आणि राज्ये) आणि इतर नियामक संस्थांमधील अंतर्गत क्षमता अत्यंत अपुरी आहेत. उदाहरणार्थ, पारंपरिक शिक्षणाकडून प्रयोगात्मक शिक्षण व टिकात्मक विचारापर्यंत जाण्यासाठी ही शिक्षण व्यवस्था चालवणार्‍या लोकांच्या व सोबतच शिक्षक, विद्यार्थी व पालकांच्या दृष्टिकोनात बदल होणे गरजेचे आहे. याचा अर्थ असा की या मेगा उपक्रमाची अंमलबजावणी करण्यासाठी हजारो शाळा व महाविद्यालयांच्या क्षमता वाढीस व पुनर्निर्देशनास हातभार लावणे आवश्यक आहे. थोडक्यात, मंत्रालयाची विद्यमान संघटनात्मक रचना आणि प्रणालीमध्ये मोठ्या प्रमाणात फेरबदल करावे लागणार आहेत.

4. नव्या शैक्षणिक धोरणाच्या दस्तऐवजामध्ये विद्यमान नियामक व्यवस्थेत सर्वसमावेशक व आमुलाग्र बदल घडवून आणण्याचा मार्ग आखण्यात आला आहे ही एक आशादायक बाब आहे. शिक्षण मंत्रालय सध्या भारत उच्च शिक्षण आयोगाच्या स्थापनेसाठी एक कायदा आणण्याच्या प्रयत्नात आहे. यूजीसी, एआयसीटीई आणि राष्ट्रीय शिक्षक प्रशिक्षण परिषदेच्या जागी भारत उच्च शिक्षण आयोग स्थापन करण्याचा विचारात सरकार आहे.

5. महत्त्वाची गोष्ट म्हणजे हे धोरण मुख्यत्वे केंद्र आणि राज्यांमधील सहकार्यावर अवलंबून असणार आहे. या धोरणाचा मसुदा केंद्र सरकारने राज्य सरकारांसह विविध भागधारकांच्या योगदानातून तयार केला असला तरी त्याची अंमलबजावणी मुख्यत्वे राज्यांच्या सक्रिय सहकार्यावर अवलंबून आहे. याचे मुख्य कारण म्हणजे बहुतांश सेवांवर आधारित शैक्षणिक उपक्रम राज्य सरकारांकडून चालवले जातात.

6. अगदी स्पष्टपणे सांगायचं झालं तर विविध उपक्रमांच्या अंमलबजवणीसाठी केंद्राला विकेंद्रीकरण आणि केंद्र- राज्ये यांच्यातील सहकार्य यांचा आधार घ्यावा लागणार आहे. गेल्या काही वर्षांमध्ये केंद्र व राज्ये यांच्यातील संघर्ष पाहता केंद्राला काळजीपूर्वक पावले उचलावी लागणार आहेत. नव्या शैक्षणिक धोरणातील अनेक तरतुदींवर विरोधी पक्षांचे सरकार असलेल्या अनेक राज्यांनी आक्षेप नोंदवलेले आहेत.

7. तामिळनाडू राज्याने नव्या शैक्षणिक धोरणाची अंमलबजावणी न करण्याची भूमिका अनुसरली आहे. अशीच भूमिका जर इतर राज्यांनीही घेतली तर केंद्राच्या चिंतेत वाढ होऊ शकते. त्यामुळे केंद्राकडून संघराज्याची समीकरणे कशाप्रकारे हाताळण्यात येत आहेत यावर नव्या शैक्षणिक धोरणाचे भवितव्य ठरणार आहे.

8. या धोरणाच्या दृष्टीने खाजगी क्षेत्राची भूमिका महत्त्वाची ठरणार आहे. भारतातील जवळपास ७० टक्के उच्च शिक्षण देणाऱ्या संस्था या खाजगी आहेत. तसेच एकूण संख्येच्या जवळपास ६० ते ७० टक्के विद्यार्थी खाजगी संस्थांमध्ये उच्च शिक्षण घेत आहेत. खाजगी क्षेत्र आर्थिक संसाधने व नावीन्यपूर्ण कल्पना प्रदान करतात याकडे दुर्लक्ष करून चालणार नाही. या धोरणाच्या प्रक्रियेसाठी खाजगी क्षेत्राचे योगदान मिळवणे व यातील एक महत्त्वाचा भागीदार म्हणून खाजगी क्षेत्राच्या योगदानाला मान्यता देणे ही एक महत्त्वाची बाब आहे.

9. सर्वांत महत्त्वाची गोष्ट म्हणजे विविध उपक्रमाच्या यशस्वी अंमलबजावणीसाठी येत्या दशकात पुरेल अशा संसाधनांची गरज लागणार आहे. या संदर्भात, या धोरणात म्हटल्याप्रमाणे नव्या धोरणाची उद्दिष्टे साध्य करण्यासाठी देशाला शिक्षणावरील सार्वजनिक खर्च एकूण देशांतर्गत उत्पन्नाच्या ६ टक्क्यांपर्यंत वाढवावा लागेल. भूतकाळात देण्यात आलेली आश्वासने आणि त्यांची प्रत्यक्ष पूर्तता यांचा विचार केल्यास हे नक्कीच कठीण काम असणार आहे.

उदाहरणार्थ, १९६८च्या राष्ट्रीय शैक्षणिक धोरणामध्ये शिक्षणावरील सार्वजनिक खर्च एकूण देशांतर्गत उत्पन्नाच्या ६ टक्क्यांपर्यंत नेण्याची शिफारस करण्यात आली होती. मात्र, गेल्या चार दशकांमध्ये शिक्षणावरील सार्वजनिक खर्च ३ टक्क्यांच्या पुढे गेलेला नाही. आश्चर्यकारक बाब म्हणजे ज्या वर्षी हे नवे शैक्षणिक धोरण आले त्यावर्षी शिक्षणावरील खर्च हा सर्वांत कमी होता. २०२०-२१मध्ये शिक्षणावरील खर्च ९९,३११ कोटींवरून २०२१-२२ मध्ये ९३,२२४ कोटी इतका कमी झाला.

10. कोरोना आणि आर्थिक संकटामुळे सरकारने आरोग्य क्षेत्रात अधिक खर्च करणे पसंत केले, त्यामुळे शिक्षण क्षेत्रावरील खर्चात कपात झाली याबाबत कोणतेही दुमत नाही. पण येत्या काळात शिक्षणावरील खर्च कसा वाढवता येईल यासाठी कोणतीही योजना सरकारकडे नाही.

आव्हानांवर करता येणारे उपाय

नवे शैक्षणिक धोरण २०२० हा नक्कीच एक मार्गदर्शक दस्तऐवज आहे. नव्या युगातील नवी आव्हाने लक्षात घेता विविध शैक्षणिक गरजा, संरचनात्मक असमानता आणि विद्यार्थ्यांना भविष्यासाठी तयार करण्यामध्ये येणाऱ्या समस्यांचे निराकरण हे या धोरणाचे उद्दिष्ट आहे. यासोबतच शिक्षण व्यवस्थेतील अनेक संकटांना तोंड देण्याचे सर्वांत आव्हानात्मक कार्यही या धोरणाद्वारे पूर्ण करायचे आहे. भारताच्या अफाट लोकसंख्येला शिक्षणाच्या मुख्य प्रवाहात आणणे आणि त्याद्वारे असंख्य रोजगाराच्या संधी निर्माण करणे हे या धोरणाच्या अंमलबजावणीवर ठरणार आहे. कोविड महामारीच्या काळात जलद पावले उचलून अवघड निर्णय घेऊन ते पूर्तीस नेण्याचे कौशल्य केंद्राने दाखवले आहे. याच कौशल्याचा फायदा शिक्षण क्षेत्रातही होणार आहे. नव्या शैक्षणिक धोरणाची अंमलबजावणी काही राज्यांनी केली आहे तर काही राज्ये त्या प्रक्रियेतून जात आहेत. तरीही अजून लांबचा पल्ला गाठायचा बाकी आहे.

राज्य, जिल्हा, तालुका पातळीवरील विविध भागधारकांना तसेच खाजगी क्षेत्राला या धोरणाच्या अंमलबजावणीमध्ये सहभागी करून घेणे हे एक अवघड काम आहे. सोबतच क्षमता, आर्थिक संसाधने तसेच नवीन कल्पना निर्मितीसाठीच्या अनुकूल वातावरणाची कमतरता ही आव्हानेही समोर आहेत. परंतु या सर्वांमध्ये विविध राज्यांमध्ये जनमत तयार करणे हे सर्वात कठीण काम आहे. थोडक्यात सांगायचे तर नव्या शैक्षणिक धोरणाच्या अंमलबजावणीचे यश सहकारी संघराज्य प्रणाली व सुधारणांमध्ये योगदान देण्याची राज्यांची क्षमता यांवर अवलंबून आहे.

निष्कर्ष -

1. युवा पिढीचे शिक्षण हे भारताच्या सर्वांगिण विकासाच्या दृष्टीने अत्यंत महत्त्वाचे आहे.

2. नवे शैक्षणिक धोरण अत्यंत प्रभावी आणि उपकारक असुनही ते राबवताना अनेक अडचणी त्याच्यासमोर येणार आहेत.

3. भारतातील शिक्षण व्यवस्था ही जगातील दुसऱ्या क्रमांकावरील शिक्षण व्यवस्था आहे.

4. भारताच्या शिक्षण व्यवस्थेमध्ये निधीची कमतरता आहे.

5. भारतातील जवळपास ७० टक्के उच्च शिक्षण देणाऱ्या खाजगी संस्थाची भूमिका या धोरणाच्या दृष्टीने महत्त्वाची ठरणार आहे.

6. नव्या शैक्षणिक धोरणाच्या अंमलबजावणीचे यश सहकारी संघराज्य प्रणाली व सुधारणांमध्ये योगदान देण्याची राज्यांची क्षमता यांवर अवलंबून आहे.

संदर्भ

1. https://www.financialexpress.com
2. https://www.education.gov.in
3. https://nvshq.org
4. https://www.learningroutes.in
5. Mehrotra Dr. Dheeraj, NEP 2020- At a Glance for Educators, First Edition, 2021
6. राष्ट्रीय शैक्षणिक धोरण २०२०, शिक्षण मंत्रालय, भारत सरकार, शासकीय प्रत, 2021

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अध्ययन, अध्यापन व मूल्यमापन प्रक्रियेतील नावीन्यता व राष्ट्रीय शैक्षणिक धोरण २०२०

प्रा. डॉ. पांडुरंग इंगळे

सहायक प्राध्यापक,

मानसशास्त्र विभाग, इंदिरा महाविद्यालय, कळंब

मो. न. ९१५८६८६०६६, ८८३०७६७४२९

कु. मनिषा बाबुराव भागवत

संशोधक विद्यार्थी

संशोधन केंद्र : मातोश्री शांताबाई गोटे महाविद्यालय, वाशिम, जि. वाशिम.

सारांश

भारताने देशव्यापी दृष्टीकोनातून नव्या शैक्षणिक धोरणाची आखणी दोन वर्षापुर्वी केली असून त्याची अमलबजावणी २०२२–२०२३ या चालू वर्षापासू सुरू झाली आहे. शिक्षण व्यवस्था ज्या देशाची जितकी मजबूत आणि प्रभावी असेल तितकी त्या देशाची आर्थिक, सामाजिक, शैक्षणिक, राजकीय, व्यवसायात्मक आणि सांस्कृतिकदृष्टया प्रगती अधिक असते. ही बाब सर्वमान्य आहे. परंतु हे सिध्द होण्यासाठी त्याची अमलबजावणी प्रभावीपणे अमलात येणे तेवढेच गरजेचे असते. आणि त्याची सर्वतोपरी धुरा ही अध्यापन कार्य करणाऱ्या वर्गाला सांभाळणे क्रमप्राप्त ठरते. त्यासाठी शिक्षकांनी अध्ययन, अध्यापन व मुल्यमानातील बदल व नाविन्य पुर्णता असलेल्या व सोशलनेटवर्कींग्च्या प्रगत काळात उदयास आलेल्या पध्दतींचा संशोधनात्मक आढावा घेणे हा प्रमुख हेतू या शोध निबंधाचा आहे. यासाठी दुयम प्रकाशित साहित्य जसे की, संदर्भ ग्रंथ, मासिके, पुस्तक, शैक्षणिक क्षेत्रातील संबंधीत संस्थाचे अहवाल इत्यादी. या गतसाहित्याचा वापर माहिती संकलित करण्यासाठी करण्यात आला आहे. सदरील माहितीच्या विश्लेषणातून असा निष्कर्ष समोर येतो की, अध्ययन अध्यापन व मुल्यमापनात नाविन्यपुर्णता ही इंटरनेट व दृकश्राव्य माध्यमाने विस्तृत आणि वैविध्यपूर्ण केली आहे.

मुद्दे :– संगणक, सोशियल मेडिया, व्हाट्सअप, कृत्रिम बुध्दिमत्ता, अध्ययन अध्यापन कौशल्य, आणि मुल्यमापन प्रक्रिया आणि शैक्षणिक धोरण २०२०.

प्रस्तावना :

कोणत्याही देशाच्या सामाजिक व शैक्षणिक विकासासाठी एक सुटसुटीत व भविष्याचे आखणी करणाऱ्या शालेय व महाविद्यालयनीन स्तरावरील शैक्षणिक धोरणाची गरज असते. राष्ट्रीय शैक्षणिक धोरण १९८६ च्या ऐवजी भारत सरकारने नव्या शैक्षणिक धोरण २०२० ला २९ जुलै २०२० रोजी मान्यता दिली. भारत देश हा शिक्षणाच्या बाबतीत नविन्याच्या संदर्भात लवचिक व बदलास प्राधान्य देणारा देश आहे. देशात जवळपास ८४५ युनिव्हर्सिटी आणि ४०००० हजाराच्या वर उच्च शिक्षण देणारे महाविद्यालय, संस्था आहेत. त्यापैकी ४० टक्के लहान लहान संस्था आंतरविद्याशाखाय उपक्रमाऐवजी एकच शैक्षणिक कार्यक्रम राबवतात. एकविसाव्या शतकात देशाला आंतरविद्याशाखीय उपक्रम राबविण्याची गरज निर्माण झाली आहे. असे एका संशोधनात निदर्शनास आले आहे. त्याप्रमाणे २० टक्के महाविद्यालय वर्षाला १०० पेक्षा कमी विद्यार्थ्यांना गुणात्मक शिक्षण देत आहे. आणि ४ टक्के

महाविद्यालयात ३००० विद्यार्थी प्रवेशित होतात. या प्रकारच्या भिन्न कारणे उच्च शिक्षण प्रणाली काळानुरूप निर्माण करण्यामागे दिसून आले.

भारताच्या अर्थव्यवस्थे बाबत असे भाकित केले गेले आहे की, ती २०३०—२०३२ पर्यंत जगातील तिसऱ्या क्रमांकाची अर्थव्यवस्था असेल आणि भारताचा जीडीपी हा १० ट्रीलीयन डॉलर इतका राहील. यावरून असे लक्षात येते की, इतका अफाट विकास फक्त देशाच्या नैसर्गिक संसाधनाच्या वापरातून नाही तर बौध्दिक मनुष्यबळातून घडून येईल. देशाच्या पंतप्रधांनानी यास ''चौथी नवीन क्रांती असे म्हटले आहे. तसेच हे नवे देशकेंद्रीत शैक्षणिक धोरण २०२० सर्वांना उच्च दर्जाचे शिक्षण देईल प्रत्यक्षपणे भाताच्या कायापालटामध्ये महत्वाची भूमिका बजावेल.'' (बी.व्यंकटेशवर्लु,२०२१).

यास भरीस भर घालणारी प्रणाली म्हणजे संगणकीकरण, डिजिटल तंत्रज्ञान होय. अतिशय वेगाने व प्रभावीरित्या संप्रेषणाचे माध्यम म्हणून या प्रणालीचा स्वीकार या शैक्षणिक क्षेत्रातसुध्दा झाला आहे.

अध्ययन अध्यापन प्रक्रियेतील बदल

पारंपारिक व आधुनिक अशा दोन्ही अध्ययन पध्दतीने शिक्षण देण्याची गरज निर्माण झालेली आहे. अध्ययनपध्दतीमध्ये कोवीड—१९ महामारीमुळे डिजिटल तंत्रज्ञानाचा वापर मोठ्या प्रमाणावर वाढला आहे. त्यामध्ये संगणक, सोशियल मेडिया, व्हाट्सअप, कृत्रिम बुध्दिमत्ता, या अतिप्रगत तंत्रज्ञानाचा शिरकाव झाला आहे. याचे चांगले वाईट परिणामही दिसून येत आहे. असे असले तरीसुध्दा या नव्या तंत्रज्ञानाचा उपयोग अध्यापनात करणे देशाच्या धोरण पुर्ततेसाठी महत्वाचे बनले आहे.

निष्कर्ष :

अध्यापन, अध्ययन आणि मुल्यमापन हे शिक्षण प्रणालीचा गाभा आहे. देशाला विकासाच्या क्षितिजापर्यंत पोहचविण्यासाठी शिक्षण व्यवस्था अत्यंत चोख आणि सक्रीय असणे काळाची गरज आहे. नव्या तंत्रज्ञानाचा अंगिकार करून शैक्षणिक कार्य करणे काळाची पाऊल खुण बनली आहे.

संदर्भ :

1) B.venkateshwarlu (2021). A critical study of nep 2020: issues, approaches, challenges, oppertunities and criticism; internationaljournalof multidisciplinaryeducationalresearch issn:2277-7881; impact factor :6.514(2020); ic value:5.16; isi value:2.286 peer reviewed and refereed journal: volume:10, issue:2(5), february:2021

2) Kumar, K. (2005). Quality of Education at the Beginning of the 21st Century: Lessons from India. Indian Educational Review

3) Draft National Education Policy 2019, https://innovate.mygov.in/wpcontent/uploads/2019/06/mygov15596510111.pdf

4) National Education Policy 2020. https://www.mhrd.gov.in/sites/upload_files/mhrd/files/nep/ NEP_Final_English.pdf referred on 10/08/2020.

5) Yojana Magazine

6) Loksatta News paper articles.

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