



ISSN: 0975-833X

Available online at <http://www.journalcra.com>

International Journal of Current Research
Vol. 15, Issue, 07, pp.25394-25396, July, 2023
DOI: <https://doi.org/10.24941/ijcr.45709.07.2023>

**INTERNATIONAL JOURNAL
OF CURRENT RESEARCH**

RESEARCH ARTICLE

RE-ENVISIONING THE CONTRIBUTION OF SCIENCE EDUCATION IN EVOLUTION OF 21ST CENTURY LEARNING SKILLS APROPOS NEP-2020

***Dr. Vandana Yadav**

Department of Chemistry, Bhopal School of Social Sciences, Bhopal

ARTICLE INFO

Article History:

Received 10th April, 2023
Received in revised form
08th May, 2023
Accepted 20th June, 2023
Published online 26th July, 2023

Key words:

NEP-2020, Science Education, Skill Development.

***Corresponding Author:**
Dr. Vandana Yadav

ABSTRACT

In 21st century world is moving at very fast pace, there is rapid development in the field of science and technology. It has brought an archetype shift in the various social processes such as lifestyle. This changing framework is the reason for more challenges. Developing the skills of students in 21st century is challenging and intimidating. Accession of divergent skills and knowledge as well as interdisciplinary approach towards the world are needed to the students to keep in pace with world. The present study discusses and reviews policies like National Curriculum Framework 2005 (NCF 2005) and National Education Policy (NEP 2020) to explore the contribution of Science Education in development of 21st Century Learning Skills which have been recommended with the intent to prepare the learners to face the challenging world.

Copyright©2023, Vandana Yadav. This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Citation: Dr. Vandana Yadav. 2023. "Re-envisioning the contribution of Science Education in Evolution of 21st Century Learning Skills apropos NEP-2020". *International Journal of Current Research*, 15, (07), 25394-25396.

INTRODUCTION

As we enter the 21st century, science and technology are changing day by day and the changes in the world are developing rapidly. It also brought about social change. It changed people's way of life. But the world is constantly changing, making life even more difficult. There are many inter-related phenomena such as population explosion, pollution, heat, forest fire, other environmental uncertainties, globalization, economic recession. It has existed since the beginning of the 21st century. We never know what lies ahead. Therefore, preparing students to live and face the world of the 21st century is difficult and dangerous. Students need different skills and knowledge and integration to be able to see the world in order to follow the world. Edwards and Usher (2000) argue that "change and uncertainty require continuous learning" and that students must adapt to the changing world and complex situations. What are the key skills that students need to develop and train to cope with the unexpected challenges that tomorrow's world presents? These questions need to be answered, the latest concern of teachers, governments and other stakeholders is leading to the formulations of strategies, the formulation of new policies, training and research to apply these skills, leading to a wealth of knowledge. There is a clear consensus that the new educational approach should adapt to the characteristics of today's students, integrate and address the context of the twentieth century (Carneiro, 2007). Students should not be delayed in acquiring 21st century academic skills, and no student should be restricted or prevented from learning or learning these skills.

There is currently a large body of knowledge focusing on three issues motivation for new learning styles, the knowledge and skills needed to be effective in the twentieth century, and education must support these skills (Cynthia, 2015). This study presents and analyzes policy with specific reference to the 2005 National Curriculum Framework (NCF 2005) and the National Education Policy (NEP 2020) to explore the role of technical education in skills development. 21st century Education Vision: Personal, collaborative, communicative, informal learning, productivity, and content creation are at the heart of the knowledge and skills students need to develop and the way these skills are taught. These concepts are essential for the twenty first century vision of education (McLoughlin & Lee, 2008; Redecker & Punie, 2013). Also includes personal skills (explanation, patience, responsibility, risk taking and creativity), social skills (teamwork, negotiation, thinking and compassion), and learning skills (management, organization, skills and knowledge and "not working forward" or changing understanding) (of problems) and responses to not working) are critical to success in the twenty first century work place (Learnovation, 2009). While many of these skills and knowledge are emerging today, "it's not new, it's just important" (Salas Pilco, 2013). The skills listed as skills in the 21st century have existed before, but may not be needed as much as before due to different situations, problems and issues. Now, with the changing world and new challenges, people need to learn and master these skills to be successful. In November 1996, the Office of International Education, chaired by Jacques Delors, France in 1996, produced a report, Learning:

Assets in, later known as the Delors Report. submitted to UNESCO. The report provides the first frame work for identifying the resources and skills needed in the twenty-first century. The four educational visions outlined in this report knowledge, understanding, life skills and study skills remain valid concepts and form the basis for defining learning skills in the twenty-first year (Cynthia, 2015). The Delors Report also pointed out four principles of education: learning to know, learning to do things, learning to be human, and learning to live. Delors' frame work is still relevant today and can be reinterpreted and extended well into the twentieth century. A set of policies, frameworks, and guidelines issued by various international organizations and committees, governments, private organizations, and intellectual property owners and owners to tackle the problems of the twentieth century. Dede (2010) and Salas Pilco (2013) compare various frameworks to identify changes in context and commonalities over time. Although frame works vary in complexity, each framework is useful for the specific environment in which it was designed. This comparison also shows the lack of talent and skill in the current education system. Accordingly, India has established many foundations and policies over the past two decades.

National Curriculum Framework for Science Education 2005:

National Curriculum Framework 2005 (NCF 2005) is the fourth National Curriculum Framework published in 2005 by the National Education Research and Training Council of India (NCERT). NCF 2005 is a guide for guidelines, guidelines and teaching practice in Indian schools. According to NCF 2005, key areas of curriculum planning remain stable for the long haul, despite significant changes in societal expectations and academic funding in general disciplines. It is important to revisit each field of study in depth to identify entry points in the context of emerging societal needs. We need to bring skills, activities directly into the curriculum, integrate them into each subject and give our own grade at the relevant levels. Schools play an important role in enabling children to participate in a culture of self-confidence, competence, peace and well-being. Science Education NCF 2005 has many recommendations for discipline and the values it should foster. The following sections of NCF 2005 discuss the goals of science education for students and society at large, and the framework also proposes a number of changes in the science curriculum at different levels from the student. According to NCF 2005, an important part of man's response to the wonder and fear of nature since ancient times has been to pay attention to the body and the physical environment, to seek patterns and relationships, to create and use new tools. Developing conceptual models for interacting with nature and understanding the world.

Human experiments gave rise to modern science. The purpose of this stage is to develop the child's curiosity about the world (natural environment, objects and people), to involve the child in exploration and hands-on work, to observe, classify, think, etc. Education in schools and communities will be an important part of pedagogy. Regular and non-regular assessments (class exams, final exams) are required. Lessons should be made more effective in order not to experience high competition between secondary and high schools. At this stage, the main issues of the discipline must be carefully analyzed and addressed with due diligence and depth, including recent developments. The most popular way to cover many disciplines should be avoided. NCF 2005 recommendations for students at different levels have been researched and approved based on changes in societal needs; It can help students develop different skills to face the ever-hanging world. Following the recommendations of the NCF in 2005, NCERT made a fair attempt to develop research materials and articles from basic to advanced.

NEP-2020 on Science Education: The Ministry of Human Resources Development (MHRD) has developed the National Education Policy 2020 document. After that, changes in curriculum and teaching are suggested to achieve the goals. "By 2022, curriculum and instruction will reduce rote learning and instead promote social and 21st century skills such as thinking, communication, collaboration, multilingual skills, problem solving, ethics, social responsibility and digital literacy. way will change."

The Board made several recommendations to achieve these goals. The following sections of NEP 2020 are mainly based on technical training recommendations.

- Reorganize school curriculum and pedagogy with new 5+3+3+4 design Therefore curriculum and teaching and working process in school will be 5+ 3 +3 + 4 structure:
- Basic level 5 years: preschool and 1st grade and 2nd grade 3 years.
- 3-Year Foundation (or Post-Primary) Level: Grades 3, 4, 5.
- 3-Year Intermediate (or Lower Intermediate) Level: 6th, 7th, 8th grade.
- 4-year high school (or middle school): 9th, 10th, 11th, 12th grades.

(a) The foundation phase will include five years of transformational, multi-level, activity-based and exploratory learning with the integration of child care and education and a time-tested Indian culture of knowledge. and children's emotions. The (b) Foundation level will consist of a three-year course with beginner-level teaching and learning materials based on games, exploration and activities, but will also gradually include text books and many aspects of classroom learning. At this level, most are general teachers, but there may be some specialist language and arts teachers (these may be shared in a school or school complex). The aim of this level is to provide a broad foundation in reading, writing, speaking, physical education, art, language, science and mathematics, to prepare students for in-depth entry into the fields of study through specific disciplines and subjects. Intermediate level will include three years of training, creating the maximum teaching and learning structure of the first level, but teachers will be brought in to study /discuss the various topics at each stage. Students at this level will be prepared for the sciences, mathematics, arts, social sciences, and humanities. Despite the introduction of specific subjects and teachers, learning and exploration of relationships between different subjects in all subjects will continue to be encouraged and emphasized. .

Reorienting the school curriculum and process. The whole school curriculum is designed to create a good learning environment, foster students' thinking, creativity, imagination, cooperation/ teamwork, responsibility, multi-language skills, multi-talent, etc. will be redirected to improve. wisdom. Emotional intelligence and digital literacy. Therefore, learning will be independent of rote; If memorization is used, it will be remembered first by its background and motivation, then by analysis, discussion and practice.

Reduce the lesson of each subject to its core content to increase learning based on knowledge, knowledge, dialogue and analysis. and important ideas. This will provide more room for discussion and to carefully understand, analyze and use key points. Teaching will try to be more interactive; Asking questions will encourage and classroom activities will be more fun, creative, collaborative and exploratory, leading students to learn deeper, know more.

More flexibility in choice Students will have more flexibility and choice of subjects, especially in secondary school, to have the freedom to create their own education and life, including physical education, arts and crafts. All schools can be considered curricular and extracurricular or extracurricular, including physical education, yoga, dance, music, art, painting, drawing, pottery, carpentry, gardening, and electricity as unacceptable. Subjects such as Arts, Arts and Crafts will be carefully integrated into the entire school curriculum with fun and safety in mind for all age groups.

There is no distinction between arts and sciences: All students will have the opportunity to participate in arts and humanities and arts and social sciences. This distinction also does not encourage higher education.

No strict separation between 'work' and 'study' streams: Primary and secondary education curricula will ensure that there is no clear distinction between 'work' and 'learning' as each student has time. Develop both skills. As the work environment changes rapidly, core

competencies are more important than specialized skills. Native/native language students will begin bilingual education in grade 8 or earlier and can discuss science in their mother tongue and in English up to grade 10. This will enable students to think about their research ideas in different ways and allow future researchers to speak to families and local media about their work and research, write about their work for the local newspaper, and talk to children about their work. . Contribute to the next generation by working in your city and town. Establish a scientific ethos and promote evidence-based thinking throughout the curriculum. Evidence-based thinking and scientific methods will be embedded in the school curriculum - science and traditional "non-scientific" subjects to support it. rationality, Analytical, logical and qualitative thinking.

Communicative communication for all subjects at intermediate and intermediate level At intermediate and intermediate level, communication continues in front of peers for the purpose of discussion about complex concepts and specific concepts. For example, in a science lesson, students may be asked to explain creative solutions to problems on the board, or in an ethics lesson, they may be asked to explain themselves about thinking about morality or discussing with examples from their own lives. At the Junior and Secondary School levels, students are also taught to address the social, scientific, technological, agricultural, medical and environmental issues facing India and the world.

Integration of digital literacy.

Incorporate ethics and morality into the entire school curriculum : Students are taught the importance of "doing the right thing" from an early age, and this provides the basic context for moral judgment

Health and safety education for yourself and those around you Teaching and practice are two separate aspects of study. They went hand in hand. According to NEP 2020, any right implemented with the same heart and passion is considered good.

CONCLUSION

This paper explores the several recommendations by NCF 2005 and NEP 2020 related to science education which clearly states the role of science curriculum in developing different 21st century learning skills to face the real world.

The world is posing several challenges for individuals, the policies or recommendations were done by keeping in mind the future challenges the world may pose and the, it has been recommended with the intent to prepare the learners to face the challenges. Transforming the 21st century education is an attempt to change the world and face the upcoming challenges posed by the world.

REFERENCES

- Carneiro, R. and Draxler, A. 2008. Education for the 21st century: lessons and challenges. *European Journal of Education*, 43(2): 149-160.
- Cynthia Luna Scott. *The Futures of Learning 2: What kind of learning for the 21st century?* UNESCO Education Research and Foresight, Paris. [ERF Working Papers Series, No. 14].
- Dede, C. 2010. Comparing frameworks for 21st century skills. J. Bellanca and R. Brandt (eds), *21st Century Skills*, pp. 51-76. Bloomington, IN, Solution Tree Press.
- Delors, J., Al Mufti, I., Amagi, I., Carneiro, R., Chiung, F., Geremek, B., Gorham, W., Kornhauser, A., Manley, M., Padrón Quero, M., Savané, M-A., Singh, K., Stavenhagen, R., Won Suhr, M. and Nanzhao, Z. 1996. *Learning: The Treasure Within: Report to UNESCO of the International Commission on Education for the Twenty-First Century*. Paris, UNESCO Publishing.
- Edwards, R. and Usher, R. 2000. Lifelong learning: The postmodern condition of education? In T.J. Sork, V. Chapman, & R. St. Clair (Eds.), *AERC2000: Proceedings of the 41st Annual Adult Education Research Conference* (pp. 95-100). Vancouver, Canada: University of British Columbia.
- Learnovation. 2009. *Inspiring Young People to Become Lifelong Learners in 2025*. Vision Paper 1. Brussels, MENON, pp. 1-12.
- McLoughlin, C. and Lee, M.J.W. 2008. The three p's of pedagogy for the networked society: personalization, participation, and productivity. *International Journal of Teaching and Learning in Higher Education*, 20(1): 10-27.
- Ministry of Human Resource Development Government of India. (2020). *National Education Policy 2020*.
- NCERT, 2016. Learning outcomes at elementary stages. National Council of Education Research and Training, New Delhi.
- NCF, 2005. National curriculum framework. National Council of Education Research and Training, New Delhi.
- Redecker, C. and Punie, Y. 2013. The future of learning 2025: developing a vision for change. *Future Learning*, 1: 3-17. Salas-Pilco, S.Z. 2013. Evolution of the framework for 21st century competencies. *Knowledge Management & E-Learning: An International Journal*, 5(1): 10-24.
