

Review of the EVS Curriculum and Textbooks against Emerging Concerns and Contemporary Areas of NEP 2020

KAVITA SHARMA*

Abstract

To accomplish the aims of education and enable the learners to lead fulfilling lives, different curricular areas evolve as per the societal changes and needs. These are required to be reviewed or revised to accommodate the contemporary changes (both local and global). The recent roll-out of the National Education Policy (NEP) 2020 and National Curriculum Framework for School Education (NCFSE) 2023 in India calls for revision of the curriculum and textbooks in various subjects as sought by the literature, feedback from stakeholders and contemporary developments. This qualitative study analyses how far the contemporary issues, areas, and emerging national and global concerns are addressed in the curriculum and textbooks of Environmental Studies (Classes 3–5) at the national level in India giving useful insights for the ongoing or future curriculum development renewal exercise. The study reveals that the curriculum and textbooks in EVS is age appropriate for children but there is enough scope to address the contemporary issues and concerns.

INTRODUCTION

Curriculum development is a process and responsibility of all stakeholders (Rajurkar, et al. 2019). To provide an enabling learning experience, the

curriculum developers should pay attention to what students need, and what attracts and engages them in learning (Seaman and Nelsen, 2011). Education being a dynamic

*Professor, Department of Elementary Education, NCERT, Sri Aurobindo Marg, New Delhi.

process requires regular curriculum evaluation (Hussain, et al. 2011) and curriculum evaluation is defined as a process of assessing the value and competence of the curriculum (Fathi and Ejargah, 2011). Textbooks constitute important vehicles for realising the curricula and include organised content for translating the vision of the curriculum (Okeeffe, 2013). Ravitch (2003) and Valverde et al. (2002), observe that the textbooks are vitally important as they play a significant role in shaping teachers', students' and families' views of school subjects. The purpose of textbooks is not just to assist with student learning but enable them to accomplish the goals of education and be contributing citizens for the well-being of self and others. Hence, it is imperative that the curriculum and textbooks are not just aligned to these larger goals but also keep pace with the contemporary needs and emerging concerns around us, which require their review from time to time. Different policies and curriculum frameworks at the national level since independence have called for reforms in the curricula and textbooks across different stages from time to time.

The Background and Rationale

Environmental Studies (EVS) have been envisioned as an integrated and core curricular area across the entire primary stage by different policy documents. Although an integrated approach to EVS curriculum was

endorsed by different National Curriculum Frameworks (NCFs) however, a distinct effort was witnessed when a drift from the topic-based approach to an interdisciplinary theme-based approach was adopted as per the recommendation of National Curriculum Framework (NCF) 2005, which helped blur the subject boundaries. It has been one and a half decades since the teachers and students have been using the resource material based on the same. Additionally, the feedback of the users, literature, and the recent developments across the globe and the nation indicate revisiting or revising the existing curriculum framework and the resource material to help our children acquire the knowledge, skills and dispositions to survive, and contribute in the 21st century.

In an era of globalisation, education, new subjects, and issues become relevant and significant to the context of the 21st century. The new National Education Policy (NEP) 2020 and National Curriculum framework for School Education (NCF SE) 2023, attempt to address the challenges that the country faces in the changing socio-economic scenario globally, which requires a major transformation of the education system in India to achieve the aspirational goals set as per the Sustainable Development Goals (SDGs). It throws light on some contemporary areas such as Artificial Intelligence, Design thinking, Holistic health, Organic living environmental

education, Global Citizenship Education (GCED), vocational education, rootedness to Indian culture, etc., for developing the skills of students at relevant stages. In view of these and some misconceptions among different stakeholders with regard to the nature of EVS as a subject. The NCFSE 2023 has recommended The World Around Us (TWAU) as a core curricular area at the preparatory stage, that encompasses Science, Social Science and Environmental Education (EE) in an integrated manner besides addressing different cross cutting areas like Health education, Art education, GCED, etc.

To make the ongoing efforts of curriculum and textbooks development more effective in this area, it is important to review the existing Environmental Studies curriculum and textbooks (based on the NCF 2005) of the NCERT empirically and systematically in the light of contemporary concerns as highlighted by the NEP 2020. This article is based on the qualitative review of the current EVS curriculum at the national level against the contemporary issues, areas, emerging national and global concerns spelt out by the NEP 2020, and the concerns raised by different stakeholders besides the research studies in planning, development, transaction and accomplishment of the existing curriculum. The objectives of the study are as follows:

- To analyse the existing EVS curriculum and textbooks (based on NCF 2005) for the contemporary areas and concerns as mentioned in the NEP 2020.
- To identify the strengths, challenges, and gaps of the current EVS curriculum and textbooks for development of the curriculum and textbooks of TWAU as per the vision of the NCFSE 2023, and the aims identified in the NEP 2020.

METHODOLOGY

The study required drawing out an understanding and prospects of the existing EVS curriculum to support the ongoing efforts of the development of the syllabus and curricular material of TWAU as per NCFSE 2023. It was done through a document review of the syllabus and the textbooks of EVS based on NCF 2005 in the light of NEP 2020. In addition, different research studies constituted important data sources to cull out the issues and concerns regarding the intentions, expectations, transactions and accomplishments of the existing EVS curriculum. The NEP 2020 was analysed for shift in the aims of education, reducing curricular load, contemporary issues, areas and approaches across different stages and subjects affecting the future EVS curriculum. The emergent concerns, shaping the curriculum of different areas (both core and cross-curricular) at the preparatory stage were enlisted. These were taken into consideration

to draw out broad themes or points as categories around which the report of this review exercise is structured.

To obtain insights into the perspectives of different stakeholders, i.e., teachers, teacher educators, curriculum developers, textbook writers, parents and the common public, Focus Group Discussions (FGDs) were conducted using separate FGD templates for the teachers and teacher educators. The curriculum developers and textbook writers were a part of all the FGDs. The heterogeneous groups had eight members with the teachers and teacher educators representing different bodies and types of schools. The FGD data was transcribed, colour coded and categorised. The public opinion gathered included the Right to Information (RTIs) and parliament queries, and those from different stakeholders including the comments and suggestions from the public that included parents or guardians.

Systematic collection, analysis and triangulation of the data from multiple sources as mentioned gave useful insights which are detailed in the subsequent sections below.

RESULTS AND DISCUSSION

Physical Aspects and Curriculum Load of EVS Textbooks

In general, different stakeholders expressed satisfaction with the age appropriateness of the EVS curriculum and textbooks, and considered them to be well within

the cognitive reach of the learners. However, there were some significant observations with respect to addition and deletion of concepts, scientific terms, chapters, etc. The details are given below.

Physical aspects of the textbooks

The EVS textbooks were observed for the font size, format, layout, binding, etc. All stakeholders appreciated the textbooks and mentioned that even children using these textbooks were quite satisfied. The presentation, appearance, visuals and colours of the textbooks are attractive, enjoyable, engaging and interesting to the students, and connect to their real lives. Muralidhar and Sharma (2019), find the use of child-friendly symbols, and icons for different activities quite appealing and useful for children. The font size of books is readable along with good paper and print quality. Gautam (2019) highlights improving the illustrations in terms of colours, appearance and attire of the characters. Additionally, it mentions the need to improve the binding of the textbook which resonated with the opinion of all the stakeholders.

Language comprehension

The activity-based learning and the philosophy of constructivism is well reflected in the textbooks through diverse learning experiences. With respect to the language used in the textbooks, a divided opinion prevailed among teachers from different schools for language comprehension.

Teachers from the private schools and central schools found the textbooks easily comprehensible by students, whereas the government school teachers did not find them so. The teachers considered the hindi version of the textbooks better for the ease of comprehension by the students. The textbook writers affirmed this and shared that it was difficult to retain the essence of Hindi language to English during translation especially in poetry. They felt that the teachers could bridge this gap.

Age appropriateness of the Concepts and Content in EVS textbooks

The teachers were highly concerned about timely coverage of the syllabus in an academic session due to the voluminous EVS textbooks in Classes 4 and 5. Almost all the stakeholders expressed concern over the length and number of chapters. The textbook writers however, disagreed with these observations and said that accomplishment of the objectives of EVS does not depend on syllabus completion, and the time taken to complete a chapter was irrespective of its length. Sharma and Kaur (2017), highlights that most teachers read chapters with occasional explanations of the text overlooking the constructivist premise of the textbooks. Sharma, K. and Sharma, P. (2021), highlights the lack of competence of teachers in content and pedagogical skills of EVS, hampering its teaching-learning.

The EVS curriculum and textbooks reflect appropriate linkages between its syllabus and textbooks, with other subjects and proper linkages within and across stages (Sharma, K. and Sharma, P. 2021). Teachers expressed concern for the concepts that were unanswered and were of varied difficulty, i.e., too easy or too difficult for students. The respondent teachers shared that it was difficult for the teachers without science background to deal with children's questions on difficult concepts. The examples that they shared are given below:

"Kya Dooba, Kya Taira (What Floats, What Sinks) deals with the concept of density and is difficult for children."

"If a student asks me why hair gets so straight in space, then I, as a teacher, don't know about it. I studied science only up to class tenth."

"Chapter '*Ussi se Thanda Ussi se garam*' (Blow Hot Blow Cold), was a bit abstract for me as well."

"...Answering children's questions requires more knowledge and better training."

Most teachers favoured the inclusion of scientific vocabulary like germination, condensation evaporation, gravity, water cycle, etc., in EVS textbooks from Class 4 onwards while doing away with the rote memorisation and their set definitions. This, according to them would not only bridge the gaps in learning but also facilitate smooth transition from preparatory to the middle stage.

The suggestions for addition and deletion of concepts and content, were mostly related to the inclusion of physical and emotional safety of children (safe touch, unsafe touch, sexual abuse, substance abuse, traffic signs, road safety); health, nutrition and hygiene (wash, sanitation, dietary diversification, nutrition with emphasis on checking malnutrition, breastfeeding, water-borne diseases, importance of deworming, sports, etc.); sports (judo, karate, yoga, games, etc.); values (community service, *panchtantra*, *hitopadesha*, etc.); Indian culture and heritage (Indian monuments, famous national and local games, and players); inclusion (constitutional rights and duties, representation of Buddhists and Parsis). Some concepts like the process of digestion, temperature, etc., were asked for an in-depth treatment whereas some other concepts like conservation migration, displacement, etc., were required to be checked for the repetition or overlap across Classes 3 to 5. All the stakeholders expressed the need to reduce curriculum load but the teacher educators emphasised judicious rationalisation of the curriculum and cautioned against the blind removal of the concepts or chapters.

Contemporary Subjects and Issues

The NEP 2020 mentions some contemporary areas like Art Education and Health and Physical

Education crucial to the holistic development of learners. In addition, it emphasises revamping education to create a new system aligned with the aspiration goals of 21st century skills while building upon India's traditions and value systems. Further, it is also in tune with the Supreme Court directive (2003), which recommends Environmental Education (EE) as an integral part of curricula at all levels of school education. Besides these, the inclusive aspect, value inculcation, vocational component and the use of ICT need a critical review of the existing curricular material in the current paradigm. The following sub-sections include a review of the current EVS textbooks against these components.

Art Education

NEP 2020 gives importance to Art Education and envisions its integration in a cross-curricular pedagogical approach to make education joyful and closer to the culture at every level by imbibing Indian ethos in the teaching-learning process. NCF 2005 also recognised art as a subject at all stages by infusing music, dance, visual arts, theatre and India's heritage crafts in all areas of learning while giving them an identity of their own at relevant stages in school education. The EVS textbooks also have ample opportunities for art and craft with a focus on indigenous work, which all the stakeholders affirmed to, but they mentioned that these were not optimally used

by the teachers, and were often left for the children to do at home. The teachers from the government and government-aided schools expressed their inability to conduct them during school hours primarily due to paucity of time to cover the vast syllabus and lack of infrastructure. The teachers from the private schools, however, made their ample use to engage children meaningfully and joyfully. They also shared that some of the private schools have separate art and sports periods.

Health and Physical Education

NEP 2020 reiterates the concern for the physical and psycho-social development of children, and seeks to implement it through a cross-curricular approach with a special emphasis on indigenous physical sports and activities of sanitation and hygiene. All stakeholders unanimously opined that the EVS curriculum and textbooks lack this aspect. Gautam (2019) also reveals that EVS textbooks have a limited scope of Health Education. Some of the teachers suggested including 'health' as a theme in EVS, whereas others wanted it to be addressed separately from EVS. The RTIs over the years, highlight the need for including the concepts related to Health Education such as, balanced diet, nutrition, substance abuse, safe and unsafe touch, wash, sanitation, personal hygiene, dietary diversification, water-borne diseases, malnutrition,

deworming, breastfeeding, sexual abuse, etc., in the EVS curriculum in an age-appropriate manner. The public opinion sought in this regard highlights mandatory sports activities integral to school education. Many suggestions were on emphasising basic training in preventive health, mental health, good nutrition, personal and public hygiene, disaster response and first aid in the EVS curriculum. Additionally, in order to have a futuristic perspective in view of the COVID-19 pandemic, the teacher educators wished to make community health and disaster management mandatory as a part of EVS curriculum.

Indian Knowledge Systems

Developing a deep sense of rootedness and pride in the Indian traditions and knowledge systems, which include tribal knowledge and indigenous ways of learning, incorporated accurately and scientifically wherever relevant, is another area that the NEP 2020 endorses very emphatically. Some of the teacher educators advocated a major paradigm shift in the approach to the curriculum and textbooks of Environmental Studies to accommodate these concerns, whereas others sought more clarity on the epistemological stance of the Indian knowledge systems. Citing the examples of local contexts like cultivation patterns, Jhum farming, seed preservation, traditional water systems, conservation and many other practices as a part of our heritage,

the textbook writers expressed that such aspects were well taken care of in the existing EVS textbooks.

Sustainable Development Goals and Environmental Education

According to Sharma (2018), the research studies warn against Ecophobia (apocalyptic and pessimistic feelings about the future of the planet) among children. So, it's not just integration of EE in the curriculum but how it has been done is also important. Sharma (2018) and Gautam (2019), mention that the EVS textbooks align with EE principles and reflect the component in an age-appropriate manner and all the stakeholders agreed with this. Sharma (2018), however, highlights that teachers find it difficult to transact in the desired manner due to lack of orientation on EE which had not been adequately addressed in the pre-service teacher education curriculum. Further, it highlights the deviation in the planning and implementation of the EE curriculum from the ethos of the NCF (2005) by the states. All the respondents unanimously expressed consensus on a lack of clarity among different stakeholders on the nature of EVS as a subject, as mandated by the policy documents. Sharma (2016) supports this further and mentions, the environmental initiatives lack sustainability at the ground level on account of the eco-club activities in schools being carried out in isolation with only a few students and staff

as part of it. It clearly reflects a poor understanding of the ESD and a lack of holistic vision among different stakeholders. The New Education Policy (2020), however, mentions creating topic-centred and project-based eco-clubs in schools.

Vocational Education

Rootedness in the context and project-based curriculum have made a basis for vocational education in the NEP 2020, which aims to integrate it with mainstream education from the middle stage. Accordingly, it recommends to provide exposure to children with activities like visiting places or monuments of cultural, historical and social importance, meeting with carpenters, gardeners, potters, artists, etc. At the preparatory stage, all the respondents were of the view that work education has been appropriately addressed through, work and play, subtheme in the EVS curriculum and textbooks yet the teachers lacked pedagogical skills to transact it. They are unable to sensitise children against the embedded issues of inequalities with respect to gender, class, and caste and the 'hands-on' activities are left for the children to do at home.

Information and Communication Technology (ICT)

Information and Communication Technology (ICT) is an important tool for bridging social divides (Mehta, S. and Kalra, M. 2006) and supplementing the teaching-learning

process (Kaur, G. and Sharma, K. 2017; Gautam, 2019). The COVID-19 pandemic drove the world towards ubiquitous virtual learning (Lockee, B. B., 2021). The NEP 2020 substantiates this and recognises the optimum use of technology in enhancing access and quality teaching-learning. Most of the teachers shared that the audio-visual aids as best substitutes for field-based activities like visits to a post office, bank, forest, etc. This helps avoid the cumbersome process of taking children out on excursions for safety reasons. Further, the teachers from private schools used ICT resources better as compared to their counterparts from the government schools. The latter reported a lack of infrastructure and support from the administration.

Addressing Values

Public opinion from different sources supports inculcating moral, ethical, patriotic and traditional values among children to help them become compassionate, responsible and ethical human beings. The NEP also seeks to inculcate these values from a young age among children for them to be rational, compassionate, resilient human beings with sound ethical moorings and values through the development of ethical, traditional Indian values, human and constitutional values among children. The teachers expressed these lacking in the existing EVS textbooks. Different stakeholders suggested to bridge the gap through stories and poems on

patriotism, nature and moral stories from Panchatantra, Hitopadesha, etc., and in the textbooks, especially that of early grades. The teacher educators, however, were of the view that the values were addressed in the EVS textbooks within the ambit of the Indian Constitution. All the teachers, except one, were oblivious of the integrated aspect of values in EVS curriculum and textbooks. It is evident from some of their responses given below:

- “During the library period, I try to talk about values.”
- “I have the privilege to take a separate period to teach children about different values.”
- “I use moral stories or additional literature from different sources during zero period to talk about values.”

Inclusive Aspect

The new policy continues to recognise an inclusive and equitable society and reaffirms the inculcation of constitutional values to bridge the social category gaps in access, participation and achievement of the learning outcomes for all children. Most of the teachers considered the textbooks addressing the inclusive aspect appropriately.

Gender, Culture, Class, Caste Aspect

The NEP 2020 recognises the access and participation of girls and the third gender at all levels of school education. According to Gautam (2019), the EVS textbooks depict an

equal representation of genders (male and female) challenging gender-based prejudices and biases, and mentions the chapter titles as inclusive. Muralidhar and Sharma (2019) mention real story-based chapters, *The Story of Amrita* (Chapter 4), *Anita and the Honey Bees* (Chapter 5), *Defence Officer Wahida* (Chapter 26), in *Class 6 and Up You Go* (Chapter 9), *Sunita in Space* (Chapter 11); *Across the Wall* (Chapter 17); *Whose Forests* (Chapter 20), etc., from Class 5 textbook highlight and challenge gender biases visibly. Some teachers objected to the illustrations and visuals portraying only women doing household chores like cooking, washing, bringing water at home, and taking care of babies and animals, and dressed in a stereotypical manner (women in sarees and girls in frocks). Muralidhar and Sharma (2019) and Gautam (2019) support this and add that the dress code in illustrations is biased, as women wearing trousers, shirts, and skirts do not find place in textbooks. Additionally, the third gender aspect as recognised under the Transgender Persons (Protection of Rights) Act, 2019 needs to be addressed.

The EVS textbooks claim to include adequate opportunities for sensitisation against differences of gender, class, caste, culture and abilities of the learners, and the textbook writers affirmed this too. Further, these focus on multicultural aspects giving due importance to the

culture and context of learners. As per Gautam (2019), socio-economic inequalities are well reflected in the textbooks and can be dealt with effectively through discussions in a context. Further, Medh (2017), Muralidhar and Sharma (2019) and Gautam (2019) endorsed this through examples like *Chhotu's House* (Chapter 5), *Foods We Eat* (Chapter 6) from *Class 3*, *No Place for Us* (Chapter 18, *Class 5*), and *Nandita in Mumbai* (Chapter 17), *Too Much Water-Too Little Water* (Chapter 17, *Class 4*) where learners were provided opportunities to think critically about social injustice and inequalities in society without any biases for a particular social class. For ethnicity representation in the textbooks, the study by Gautam (2019) reflects that diverse people from different states are covered in the content and illustrations, like in *Class 5*, *Chittibabu and Chinnababu's family making Mamidi Tandira (Aam Papad)* (page no. 38–39) and *changpa and Bakarwal people* in the chapter, *A Shelter So High*. Gautam (2019) highlighted depictions of different religions—images, illustrations of characters and their names, however, the content in the textbooks does not promote or propagate any particular religion. Medh (2017) points out the projection of the characters from four religions namely Hindu, Muslim, Christian and Sikh with no references to Parsis, Buddhists, etc.

Disability aspects

The NEP 2020, in line with the Right of Persons with Disability (RPWD) Act 2016, accords the highest priority for ensuring the inclusion and equal participation of children with disabilities. The teachers were concerned about not including adequate insights on varied disabilities in the textbooks and shared that only physical disabilities were addressed. However, the textbook writers disagreed and said the textbooks include adequate opportunities of sensitivities for the differently abled. Gautam (2019) affirms the inclusion of disabilities and disabled children in the content and illustrations of the textbooks giving examples like—lessons on the visually challenged ‘Sharing our Feelings’ (Chapter 13, Class 3) and the hearing and speech impaired (Chapter 7), ‘Saying without Speaking’ in Class 3 and ‘Chuskit Goes to School’ Class 4 cover mental and physical disabilities. The teachers admitted their lack of understanding to involve and engage the disabled children meaningfully in the classrooms and also expressed having challenges for their social integration with peers.

Findings

The discussion based on the above data reveals some aspects which need consideration in the development of the new curriculum and textbooks in EVS as per the vision of the NEP 2020.

Findings on EVS Curriculum and Textbooks

- The EVS curriculum and textbooks are largely age-appropriate, with a few exceptions. The textbooks include joyful activities of diverse nature like narratives, stories, dialogues, conversations, poems, etc., based on the constructivist premise as endorsed by the NEP 2020. The layout, font size, format, language comprehension, visuals, symbols or icons, etc., are appropriate, in general, for children from all schools.
- The Hindi version of the textbooks is more popular with children as compared to the English version. The translation of the textbooks from Hindi to other languages, probably affected the comprehensibility and the language flow. Some concerns about the poor binding and paper quality of the textbooks and colours, appearance and attire of the characters in illustrations were also reported.
- The voluminous textbooks with more content and lengthy chapters in Classes 4 and 5 were a major concern with almost all the stakeholders except the textbook writers, who disagreed and considered the accomplishment of the learning outcomes to be irrespective of the length of a chapter. They considered teachers lacking pedagogical skills under the constructivist paradigm.

- Many stakeholders raised concerns for some science concepts that teachers with non-science backgrounds found difficult to deal with. Some concepts like the digestion process, temperature, etc., were asked for in-depth elaboration whereas, some other concepts like conservation, migration, and displacement were required to be rationalised for the overlaps across the textbooks.
- For reducing curriculum load, judicious rationalisation of the curriculum was called for blind removal of the concepts or chapters.

Findings on Cross Curricular Areas integrated with EVS

- As per the thrust of the NEP 2020 on Art Education, Health Education, Environmental Education and Vocational Education are to be included in a cross-curricular manner at the preparatory stage and the existing EVS textbooks address them too, in the same manner. However, different stakeholders sought clarity as emphasising these areas would require more time and space; however, the policy recommended restricting curriculum to the development of core competencies only.
- There is an ample focus on the integration of indigenous art and craft in the existing textbooks but the opportunities are not optimally utilised in the classrooms, especially in the government schools, where the responsibility is left to the parents to get them done at home.
- Almost all stakeholders and some research studies report a limited scope with almost negligible content on health, safety and hygiene in the textbooks from Classes 3 to 5. The gaps mainly pertain to the physical and emotional safety of children, preventive health, nutrition, hygiene and disasters. Further, all of them sought a greater emphasis on sports unequivocally. All schools have separate periods allocated for Physical Education but not for Art Education. Only a few schools have separate periods for the latter. The teachers considered a lack of time and infrastructure for the conduct of Art and other outdoor activities.
- NEP 2020 envisages the development of a deep sense of rootedness and pride in India through its traditions and knowledge systems in India. All stakeholders except the textbook writers wanted a paradigm shift with emphatic representation of Indian Knowledge Systems (IKS). On the whole, everyone sought clear guidelines on the epistemological stance on IKS for its inclusion in the curriculum and textbooks.
- The NEP 2020 recommends giving pre-vocational skills to children

at the preparatory stage through field visits and interactions with skilled workers. Despite the 'Work and Play' subtheme in the existing EVS curriculum, its transaction is so effective. Teachers' lack of incompetence to handle the sensitive topics of caste, class, gender and hands-on activities are some major reasons behind this.

- The environmental component is reflected well in the EVS textbooks in an age appropriate manner. However, contemporary developments like Sustainable Development Goals (SDGs), Global Citizenship Education (GCED), rights of third gender and various constitutional amendments need to be incorporated suitably. The transaction of the environmental component is not as per the curricular expectations due to lack of a holistic understanding of Environmental Education among teachers and other stakeholders.
- The concept of values is misconstrued and most stakeholders considered them to be ethical and moral only. Different stakeholders shared that the existing EVS textbooks lack value education and suggested the need to bridge the gap through stories and poems on patriotism, nature and moral stories. The textbook writers, however, negated this and mentioned that values are addressed within the ambit of constitutional framework.
- There is not much awareness of values being an integral part of the curriculum and their transaction especially among teachers. They considered additional time (zero period, etc.), space (library, etc.) and literature (beyond textbooks) crucial for value education.
- The textbooks conform to covering the constitutional values for developing the democratic outlook and secular principles while addressing the socio-economic inequalities like gender, caste, class, culture, etc. Different studies also corroborate the same but some of them observed gender stereotypes against women for their roles and appearance in some illustrations or visuals.
- The regional diversity is addressed appropriately without propagating any religion, however, characters from only four religions, namely, Hindu, Muslim, Christian and Sikh find representation in the textbooks with no reference to Parsis, Buddhists, etc.
- The textbooks include the differently abled, however, only physical disabilities are covered. A lack of guidelines on meaningful involvement and engagement of children with special needs in the teaching-learning process, and in dealing with socio-emotional and other challenges is obvious. Further, inclusion for the Transgender Persons (Protection of Rights) Act, 2019 is needed.

- ICT is a cross-curricular area that bridges the social divides without compromising the quality of content. It is a good pedagogical substitute for situations where first-hand experiences are difficult to be provided. However, the teachers consider the lack of resources in government schools primarily for its underutilisation.

CONCLUSION

It may be concluded that the EVS curriculum and textbooks based on NCF 2005 are appropriate with respect to the language, content and presentation as per children's development, background and interests. However, there were some concerns about the voluminous textbooks, their binding, paper quality and difficult language of the English version of the EVS textbooks. Additionally, there are difficult concepts in Science without explanation, some overlapping concepts and gender stereotypes in illustrations. The contemporary and thrust areas of the NEP 2020 namely; Art Education, Health and Physical Education, Environmental Education, Value Education, Indian Knowledge Systems and Vocational Education are addressed in a cross-curricular manner through EVS, but presently, the teachers consider lack of orientation and time constraints owing to the loaded curriculum and textbooks.

The EVS curriculum and textbooks include various opportunities ranging

from adequate to scarce (maximum for Art Education and Environmental Education, appropriate for vocational aspect, average for Health Education and Value Education and scarce on Indian Knowledge Systems). However, these are not being optimally used during teaching-learning and lack of awareness, time, infrastructure and administrative support, vision and competence of different stakeholders, especially the teachers, are some of the reasons cited for the same. There are gaps with respect to health, safety, nutrition, sanitation and hygiene in the textbooks, and the stakeholders needed clarity on the scope, pedagogical propositions of the Indian Knowledge Systems for inclusion in EVS.

The environmental component is quite emphasised in EVS curriculum and textbooks and aligns with the Supreme Court directive but the SDGs, GCED, Rights of the LGBTQ and various constitutional amendments, and the contemporary developments at the local and global levels need to be addressed. Further, different stakeholders lack a vision for its implementation. The vocational aspect requires providing children with some foundational opportunities at the preparatory stage to maintain a smooth transition to the middle stage. The existing EVS curriculum does include 'Work and Play' as a subtheme but its transaction is not in tune with the expectations of the textbooks. The values are within the Constitutional framework but

different stakeholders seek better clarity on ethical, moral, human, constitutional and traditional Indian values as elaborated by the new policy.

The textbooks are inclusive largely with regard to gender, caste, class, region and religion with a few examples of gender misrepresentation and non-inclusion of minorities other than Muslims, Christians and Sikhs. The textbooks include only physical disabilities, thereby ignoring the mentally and emotionally challenged completely. Further, the lack of pedagogical guidelines for inclusion of the disadvantaged and differently-abled is quoted to be the cause of poor transaction of this component. In today's time, ICT is indispensable, but its optimal usage has not been done at the ground level.

SUGGESTIONS

- The curriculum needs to be rationalised by doing away with the duplication of concepts and including them in an age-appropriate manner in the textbooks. The number of pages in the textbook, length of chapters, and merging or deletion of the concepts/chapters may be rationalised judiciously.
- The translation of the text compromises the rigour of a language. It needs to be done carefully and verified by back translation. The poems may not be translated but may be replaced with similar poems, originally composed in a particular language.
- Binding, paper quality, etc. are issues that need one-time attention and should be sorted in consultation with the users.
- A few illustrations were suggested for the improvement of the colours and appearance and attire of the characters.
- Given the non/under-representation of emotional disabilities, transgender aspects, religious minorities like Buddhists, Parsis, etc., not only do the existing EVS curriculum and textbooks need to be revisited in the light of national and global concerns and developments post 2005 (like gender issues, holistic health (both physical and emotional), organic living, community health, disaster management, SDGs, GCED, the Constitutional amendments, etc.) but clear guidelines for the transaction of such components may also be provided.
- The teacher's notes in the textbooks need to be revised from time to time to include adequate details on the pedagogical challenges that teachers face while transacting the textbooks.
- A rigorous effort for addressing the concern of NEP 2020 on curriculum load and reducing it to the core essentials is needed. It requires meticulous ways to create ample space for the cross-curricular areas (Art, Health and Physical Education, Environmental Education, etc.)

beyond textbooks and classrooms in the school curriculum.

- In view of the introduction of Vocational Education from Class 6, although the present EVS curriculum at the primary stage addresses it through the theme of 'Work and Play', clarity needs to be provided for the strategic aspects to maintain a smooth linkage between preparatory and middle stages.
- In view of the policy recommendation for developing a deep sense of rootedness and pride in India, better clarity is needed with regard to its scope, guidelines, strategies and implications on different curricular areas including EVS.
- The ambiguity prevailing among all stakeholders on different types of values, i.e., moral, ethical, constitutional and traditional Indian values, as mentioned in the new policy, should be addressed for effective implementation of Value Education, which has been given a major thrust under NEP 2020.
- For ensuring quality and providing education of the same standards from top to bottom, ICT has immense potential and the pandemic situation has further made it indispensable. The challenges to its optimal usage need to be identified and checked and strategies need to be devised to overcome them.
- Any curriculum review exercise needs to be accompanied by parallel reforms in teacher education. Lack of time, infrastructure, administrative support, vision and competence of different stakeholders, especially that of teachers are some of the major factors for the ineffective implementation of different curricular and cross-curricular components. Moreover, the teachers trained through conventional approaches in teacher training programmes are unable to practise the constructivist approach. So, there is a need for synchronised efforts toward renewal of the school education and teacher education curriculum.
- With so many components being cross-curricular at the preparatory stage, the teachers' training needs to enable teachers to broaden their understanding of school subjects, look beyond the rigid boundaries holistically and not just take them as a body of cold facts.
- The teacher education programmes must include interdisciplinary approaches to teaching learning and need to have online and offline courses on pedagogy of EVS and EE to equip the teachers with appropriate pedagogical skills and competencies to deal with it.
- Teacher training material and proper resources in terms of providing handbooks and digital resources need to be provided to support teachers in classroom teaching.

- A decentralised approach with teacher autonomy needs to be adopted towards curriculum planning and transaction.

REFERENCES

- FATHI AND KORUOSH EJARGAH. 2011. *Principles of Curriculum Planning*. Iran Zamin Publishing.
- GAUTAM. 2019. Lessons on Health Education: A Critical Review of Environmental Studies Textbooks of NCERT. *International Journal of Research in Social Sciences*. 9(4).
- GAUTAM, J. 2019. Inclusion in Environmental Studies Textbooks: A Critical Review. *Jamia Journal Education*. New Delhi.
- GOVERNMENT OF INDIA. 2020. NATIONAL EDUCATION POLICY. https://www.education.gov.in/sites/upload_files/mhrd/files/NEP_Final_English_0.pdf.
- . 2016. The Rights of Persons With Disabilities. Department of Empowerment of Persons With Disabilities (Divyanjan); Ministry of Social Justice and Empowerment. Act. www.indiacode.nic.in/bitstream/123456789/2155/1/A2016_49.pdf.
- HUSSAIN A., A. H. DOGAR, M. AZEEM, A. SHAKOOR. 2011. Evaluation of Curriculum Development Process. *International Journal Humanities and Social Science*. 1(14). 263–71.
- KAUR, G. AND KAVITA SHARMA. 2017. Curricular Intention, Teachers' Comprehension and Transaction of EVS Textbooks: A Study. *Indian Educational Review, ERIC*. NCERT, New Delhi.
- LOCKEE, B. B. 2021. Online Education in Post-covid Era. *Nature Electronics*. 4. 5–6. <https://www.nature.com/articles/s41928-020-00534-0>
- M.C. MEHTA VS UNION OF INDIA AND ORS. 2003. <https://indiankanoon.org/doc/1419757/>
- MEDH, P. 2017. *Textbook Analysis: EVS for Class V (NCERT)*, Sandarbh. Issue 113. https://www.eklavya.in/pdfs/Sandarbh/Sandarbh_113/01-06_Textbook_Analysis_EVS_for_Class_V.pdf
- MEHTA, S. AND M. KALRA. 2006. Information and Communication Technologies: A Bridge for Social Equity and Sustainable Development in India. *The International Information and Library Review*. 38. 147–160. doi: 10.1016/j.iilr.2006.06.008.
- MURALIDHAR, C. AND R. SHARMA. 2019. *An EVS Textbook—Cover to Cover, Learning Curve*. Azim Premji University.
- NATIONAL COUNCIL OF EDUCATIONAL RESEARCH AND TRAINING. 2000. *National Curriculum Framework for School Education*. New Delhi.
- . 2005. *National Curriculum Framework*. NCERT, New Delhi.
- . 2023. *National Curriculum Framework for School Education*. NCERT, New Delhi.
- . 2005. Syllabus for Elementary School (Class I–VIII). NCERT, New Delhi: <https://ncert.nic.in/pdf/syllabus/Preliams.pdf>
- . 2005. Syllabus for Classes at Elementary Level (Classes I–VIII)-Environmental Studies. New Delhi. [https://ncert.nic.in/pdf/syllabus/08Environmental%20\(III-V\).pdf](https://ncert.nic.in/pdf/syllabus/08Environmental%20(III-V).pdf)
- . 2021. *Environmental Studies Looking Around: Textbook For Class III*. New Delhi. <https://ncert.nic.in/textbook.php?ceap1=0-24>

- . *Environmental Studies Looking Around: Textbook for Class IV*. New Delhi. <https://ncert.nic.in/textbook.php?deap1=0-27>
- . *Environmental Studies Looking Around: Textbook for Class V*. New Delhi. <https://ncert.nic.in/textbook.php?eeap1=0-22>
- OKEEFFE, L. 2013. A Framework for Textbook Analysis. *International Review Contemporary Learning Research*. 2(1). 1–13.
- RAJURKAR S., K.D. CHAVAN, S.G. KACHEWAR AND P.A. GIRI. 2019. A Review of Significant Aspects Contributing to Curriculum Development. *International Journal of Research in medical Science*.
- RAVITCH, D. 2003. *The Language Police: How Pressure Groups Restrict What Students Learn*. Alfred A. Knopf, New York.
- SEAMAN, J. AND P. J. NELSEN. 2011. An Overburdened Term: Dewey's Concept of "Experience" as Curriculum Theory. *Education and Culture*. 27(1). 5–25. <https://www.jstor.org/stable/10.5703/educationculture.27.1.5>
- SHARMA, K. 2016. *A Study of Good Practices on Greening of Schools*. ERIC, NCERT, New Delhi. https://ncert.nic.in/dee/pdf/Green_School_Report.pdf on 20 March 2022
- SHARMA, K. 2018. Research Trends in Environmental Education, A Research Review (2000–2016). *Indian Educational Review*.
- SHARMA, K. AND P. SHARMA. 2021. NEP 2020 and EVS Curriculum. *Voices of Teachers and Teacher Educators*. X(II).
- SHARMA, K. 2021. NEP 2020 and EVS Curriculum. *Voices of Teacher and Teacher Educators*. 10(2). 44–53.
- THE CURRICULUM FOR THE TEN YEAR SCHOOL; A FRAMEWORK. 1975. NCERT, New Delhi. https://ncert.nic.in/pdf/focusgroup/NCF_10_Year_School_eng.pdf
- THE HINDU. 2018. Section 377. Judgment: <https://www.thehindu.com/news/national/article24880700.ece/binary/Sec377judgment.pdf>.
- TRANSGENDER PERSONS (PROTECTION OF RIGHTS) ACT. 2019. <https://transgender.dosje.gov.in/docs/Transgender%20Act,%202019.pdf>.
- UNESCO. 2015. *Sustainable Development Goals (SDGs)*. <https://sustainabledevelopment.un.org/?menu=1300>
- VALVERDE, G., L. BIANCHI, R. WOLFE, W. SCHMIDT AND R. HOUANG. 2002. *According to the Book: Using TIMSS to Investigate the Translation of Policy into Practice through the World of Textbooks*. Kluwer Academic Publishers, London.