

Teacher education for sustainable development in India: Content analysis of syllabus at elementary level of Madhya Pradesh and Rajasthan

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Abstract

Teacher education has a key role to play in the education for sustainable development. A prospective must be exposed to all the aspects of sustainable development in order to implement and transfer this knowledge in a classroom setting. It is well known that all the educational activities and processes are guided by prescribed curriculum. Therefore, the current study focused on analyzing the syllabus in order to assess its orientation towards sustainable development. The study primarily includes content analysis of the D. El. Ed. Syllabus of two states namely Rajasthan and Madhya Pradesh. The content analysis reflected that sustainable development as an individual concept was not dealt with in any of the states. The social, environmental and cultural component has been addressed partially. However, Economic component is missing throughout the syllabus. The findings indicated a desperate need for viewing and constructing the curriculum comprehensively with the view of sustainable development. Education has a crucial role to play in promoting values, knowledge, skills and competencies for sustainable development. This study provides a direction in this regard. For this, teacher educators need to be equipped to understand these issues and concerns and incorporate them in their teaching learning process. The teacher education curriculum framework needs to integrate these perspectives in its formulation.

Keywords: teacher education, sustainable development, content analysis

Introduction

The term 'Sustainable Development' became distinctly acknowledged following the Brundtland Commission's Report, "Our Common Future" (1987). According to this Report, Sustainable Development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs (United Nations, 1987). The United Nations World Conference on Environment and Development (WCED), which took place in Rio de Janeiro in 1992^[1] and which was ardently influenced by the terms that was introduced by the Brundtland Report, was an important milestone for making the concept of 'sustainable development' more concrete (Scott & Gough, 2003)^[6, 7]. At the same time the nations agreed to bring to life the United Nations Framework Convention on Climate Change (UNFCCC), other elements, UNFCCC expressed the need to develop and implement education initiatives to raise awareness about climate change and its impacts and to develop and share educational programmes and materials (United Nations 1992). In these important documents majorly three main aspects were identified of sustainable development *viz.* – environmental (ecological), economic and social. The concept grew more detailed and branched out into the 8 Millennium Development Goals (MDGs) by the United Nations in 2000. These incorporate eradication of extreme poverty and hunger, to achieve universal primary education, to promote gender equality and empower women, to reduce child mortality, to improve mental health, to combat HIV/AIDS, malaria and other diseases, to ensure environmental sustainability and to develop a global partnership for

development. These goals had to be achieved in a time bound manner most of them by 2015. At the end of the period it was assessed that several goals had been accomplished, but a lot more ground had yet to be achieved. To address the emerging challenges, in the year 2015 a set of 17 Sustainable Development Goals (SDGs) were declared as milestones to be reached by the year 2030. The 17 SDGs include the goals of no poverty, zero hunger, good health and wellbeing, quality education, gender equality, clean water and sanitation, affordable and clean energy, decent work and economic growth, industry, innovation and infrastructure, reduced inequalities, sustainable cities and communities, responsible consumption and production, climate action, life below water, life on land, peace, justice and strong institutions and partnership for the goals. Simple estimations with respect to the linear causal relationship are very challenging or difficult to make as most of the issues of sustainability are multifarious because social, economic and ecological aspects are intertwined. Though Education for sustainable development focuses on social, economic and environmental issues that threaten the sustainability of the universe. Many of these key issues were recognized at the Earth Summit in Rio de Janeiro (1992)^[1] and are found in Agenda 21. To understand and address these issues are in the centre of Education for Sustainable Development, also locally relevant issues should be included in any program related to educating for sustainability. Education is one of the factors to prepare societies to handle climate change (UNESCO 2017), which itself is one of the greatest world challenges (Alberta Council for Environmental Education 2017). Education for Sustainable Development (ESD)

carries with it the inbuilt idea of implementing programs that are locally relevant and culturally appropriate. All sustainable development programs including ESD must take into consideration the local environmental, economic and societal conditions. As a result, ESD will take many forms around the world. For instance, a commendable effort to achieve sustainable development in harmony with local environment and culture has been undertaken by the Bodhshala project undertaken by the NGO SIDH (Society for Integrated Development of Himalayas) (Venkatesh, R. 2015).

Sustainable Development: Conceptual Framework

Sustainability is a well-defined management strategy focused on the clear abandonment of the presumption that natural resources are unlimited (World Environment and Development Committee, 1987; Lubchino *et al.* 1991). Sustainable development, which is a complex concept,

originates in the natural and social sciences that have been developed through international dialogue, in response to today's world challenges. According to Brundtland commission, sustainable development is "development which meets the needs of the present without compromising the ability of future generations to meet their own needs." The idea that economic, social, and environmental conditions play a major role in development is a core principle behind sustainable development. Without a proper ecosystem it's impossible for our own and future generations to maintain a better society and economic development. So the environmental dimension can be seen as the ultimate foundation for sustainable development. The social dimension is to meet the basic needs of all people, without going beyond the ecosystem boundaries. The economic aspect is a means of achieving the objective within the constraints of a socially and environmentally sustainable way. Thus, Education for

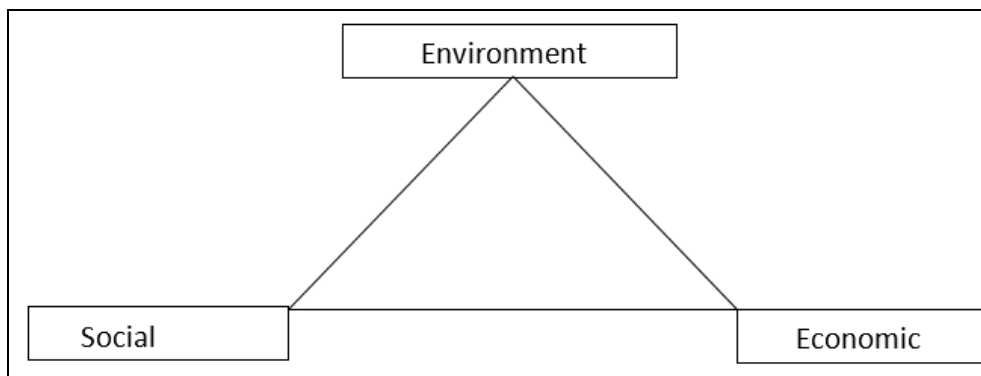


Fig 1

Sustainable Development (ESD) cannot be considered as having only links with the environment, it is also a social and economic development. The concept of sustainable development can be depicted in a triangular model as,

Sustainable development education has five components; knowledge, skills, perspectives, values, and teaching issues that must be addressed in a formal sustainable development curriculum.

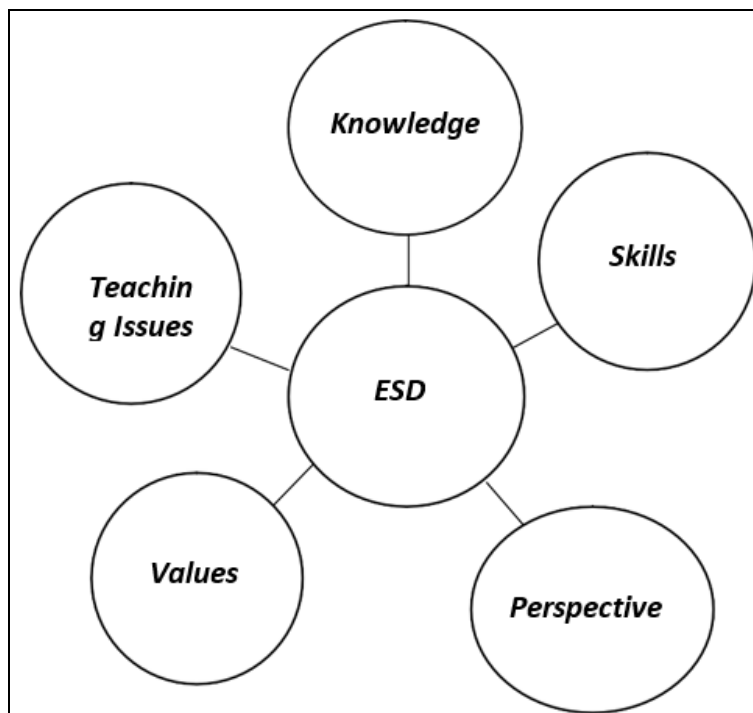


Fig 2

As sustainable development encompasses the environment, the economy, and society, people need basic knowledge from natural science, social science, and humanities in order to understand sustainable development principles. People should be aware of the values involved and their implementation's ramifications. Sustainable Development Education focuses in large part on the major social and environmental problems that threaten the survival of the earth. Understanding and resolving these concerns is the center of Education for Sustainable Development and concerns of local significance should be included in every sustainability education related program. Education for Sustainable Development needs to go beyond teaching about these global issues to be effective. People should develop the practical skills that will enable them to continue learning for livelihood after they leave school and apply them in their actual lives. These skills will differ with community conditions falling within one or more of the three realms of sustainable development — environment, economic, and social. Education for Sustainable Development carries with it perspectives that are important in a global context for understanding global issues as well as local issues. Each problem has its own past and a future. Looking at the roots of a problem and forecasting potential scenario-based futures are part of Education for Sustainable Development, as they are linked to many global issues. Values are an integral part of sustainable development education, too. Understanding one's own value, the values of society, and the values of other societies around the world, for a sustainable future is a central part of education. For the value component of Education for Sustainable Development, two common techniques — value clarification and value analysis — are useful.

Pollution, deforestation, biodiversity loss, ozone hole, global warming and climate change are some of the environmental issues the world faces today. Where were they from? All of the essential resources required to live come from the climate. This is the atmosphere that provides industry with raw materials, human food, transport fuel etc. The environment also absorbs the waste generated by the developmental activities. That is, the environment is both a source of developmental activity and a sink. The way humans interact with the environment affects their health and well-being. The overuse of energy contributes to environmental degradation. Out of this overuse and/or abuse of our natural resources many of today's environmental issues have arisen. All of these problems affect human well-being. Environmental problems can have impacts on both the short and the long term. For example, the short-term impact of deforestation could be that local communities find fuel, wood, and fodder harder to find. The long-term impacts may be soil erosion, river depletion etc.

Solving existing environmental issues and preventing new ones from arising requires an understanding and appreciation of the link between well-being for the environment and human well-being. At first instance, though, many of these linkages are not apparent. This is where schooling is of critical importance. Environmental and development concerns should be brought to people's attention through education in order to enable them to understand the linkages between the two, to encourage them to take appropriate action, and to equip them with the necessary skills to take the appropriate action.

Teacher Education and Education for Sustainable Development

Sustainable development highlights the need to reconcile economic development and environmental conservation and consider environmental issues within a social, economic and political context. This concern about sustainability is linked to environmental education, and has given a new impetus to environmental education globally. The Brundtland Report itself had highlighted the crucial role that teachers worldwide must play in achieving the social need for sustainable development. Agenda 21 of the 1992 UN Conference on Environment and Development (UNCED) action program in Rio highlights the urgent need for sustainability education. Education is critical for promoting sustainable development, and improving the capacity of the people to address environmental and development issues' (UNCED 1992 Ch.36 p2). Such perspectives on sustainable environmental education are naturally linked to the growing concern for development education, its integrative approach to global issues committed to experiential learning styles, and the development of a culture of cooperation in the classroom.

Such sustainable approaches to environmental education embody a number of challenges for teachers and educators. There has been a profound change in public views towards the environmental problems at the basic level. Studies reveal a gap in knowledge concerning greenhouse effect, ozone layer and acid rain. The student teachers are very often superficial in their awareness and knowledge of environmental concepts. Many seasoned teachers, reacting to these questions mainly from a subject-specific viewpoint, feel under-prepared to answer these nuanced, multifaceted and subjective issues.

However, it is in defining the essential nature of Environmental Sustainability Education (EEFS), that we expose teachers to the full extent of the challenge. EEFS is concerned not only with generating an understanding of the concept of global interdependence of a global ecosystem in which the future of all species is inextricably linked, but also with creating an attitude of commitment to action based on that understanding – a commitment to change. There is concern within society that preserving the quality of the environment is important; but few extend this to considering how to limit their own needs in order to achieve environmental sustainability. It is very relevant in this connection to remember Mahatma Gandhi's famous statement that 'the world has all the resources to satisfy man's needs, but not their greed.' The task for EEFS is to turn a common environmental issue into an understanding that includes personal costs and restrictions, and that means increasing understanding and commitment.

Tilbury is well-developing this point: "To contribute to EEFS environmental work, it will need to be relevant to the student, by increasing their understanding of themselves and the world around them. It must encourage pupils to explore connections between their personal lives and wider environmental and development concerns by addressing issues like consumerism, and how banking and industry practices affect their lives. (Tilbury 1995 p).

Similarly, in developing an environmental and development education project for teacher educators in Australia, Fien describes the fundamental concerns to be tackled with respect to economic, social justice and sustainable

development concerns. Those involved in environmental and development education must activate the socially critical or deconstructionist tradition and promote approaches to curriculum planning and pedagogy that can help integrate social justice and ecological sustainability into a personal and social change vision and mission. (Fien, p. 25, 1995) [2]

EEFS gives validity to questions about affective, value-based, and cognitive comprehension responses. Such teaching acknowledges that opportunities are to be given to children to develop their own value-based responses, and acknowledges that we are concerned with teaching on issues that may cause conflict and controversy. This may not be too problematic if handled skilfully by experienced teachers, but at another level, such a focus on environmental education, with a central focus on values and attitudes, is complex and challenging, and many teachers feel ill-equipped to deal with such issues in terms of their own teaching strategies. One major concern even for experienced teachers is the lack of extensive teacher support materials with activities to boost confidence in handling controversial classroom issues.

EEFS does not just hope that learning activities will lead to a (environmental) ethic. Rather it sets out positively to develop environmental awareness and concern to a level that will result in the acquisition of a personal ethic of the environment. Teachers should actively promote the consideration of values needed to build sustainable lifestyles and avoid a neutral attitude. (Tilbury 1995, p 201-202).

Rationale

A student pursuing a course of study supposed to achieve knowledge, competencies and skills that meets both individual and contemporary demands of the society. This whole process of interaction between teaching, learning, evaluation, teachers, students, examiners and administrators are guided by prescribed curriculum. Curriculum indicates the vision and aims of the course and shows the content and methods in order to achieve those vision and aims.

This whole process of teaching, learning and evaluation become more significant when it promotes the knowledge, skills, competencies that are necessary to foster sustainable societies. A prospective teacher must be exposed towards all aspects of sustainable development so as to empower them to promote it in all spheres of life, especially in classroom settings. Hence, it is essential that teacher education curriculum must be designed in a manner that fosters knowledge and competencies regarding sustainable development. In this context, this study attempts to analyse the D.El.Ed. Curriculum with the view of education for sustainable development.

Objective

The objective of the study can be stated out as-

General objective

To analyse the D.El.Ed. Syllabus of Madhya Pradesh and Rajasthan with the view of education for sustainable development

Specific Objectives

- A. To analyse the D.El.Ed. syllabus with respect to general concept, social, environmental, cultural and economic component of sustainable development

- B. To provide suggestions for the improvement of D.El.Ed. syllabus in the view of education for sustainable development

Methodology

The study has been carried out in two states namely Rajasthan and Madhya Pradesh. DIET, Sehore (Madhya Pradesh), and Bilwara (Rajasthan) which is coherent Block of Icchawar (Madhya Pradesh) have been adopted by NCERT as an academic resource support under the study. To carry out this study the workshop was conducted with the help of the teacher educators of Madhya Pradesh and Rajasthan. The effort has been to analyse the existing D.El.Ed. Curriculum and evaluate that to what extent it reflects the concepts and various dimensions with regard to Sustainable Development. Also there was a group discussion to understand the level of understanding of the teacher educators regarding Sustainable Development. The present study primarily includes textual analysis of the D.El.Ed. Syllabus of Sehore (Madhya Pradesh) and Bilwara (Rajasthan) to scrutinize it with the view of education for sustainable development.

Criterion Rubric for Content Analysis

A criterion rubric was developed to critically analyse the orientation of syllabus in terms of education for sustainable development. Four formats focusing the four areas of sustainable development were included in the rubric by referring various international and national documents on education for sustainable development in which 'Education for Sustainable Development - sourcebook' provided by UNESCO, 2012 was referred largely. Further, the content validity of schedule was determined by the experts in the field.

Following four areas were identified to evaluate the D.El.Ed. Curriculum:

1. Sustainable development (introduction to this concept as a whole and its importance)
2. Social
3. Environmental
4. Culture and Economic

A workshop was conducted in which experts from both the states were gathered to do the content analysis of the syllabus with regard to ESD. All the subjects content, assignments and activities listed in the syllabus were scanned and those topics were highlighted which reflects directly the components of ESD listed in the rubric.

Result and Discussion

The D.El.Ed. Syllabus was scanned to look into its content. The D.El.Ed. Course is a full-time two years professional teacher education program that trains teachers for the primary level. The course includes practical training and internships along with the classroom training. According to the new curriculum, teaching of following papers and assessments carried out during first and second year in both the states Rajasthan and Madhya Pradesh. The description of course is categorised below.

Theoretical Papers

Table 1

S.No.	Rajasthan	Madhya Pradesh
First Year		
1	Childhood and the Development of Children (R1)	Childhood and development of Children (MP1)
2	Objectives of Education, Knowledge Curriculum (R2)	Education in contemporary Indian Society (MP2)
3	Indian Society and Education (R3)	Early Childhood Care and Education(MP3)
4	Language Cognition and Society (R4)	Understanding Language and Early Language Development(MP4)
5	Hindi Language Teaching and Proficiency (R5)	ICT Integration across the curriculum(MP5)
6	English Language Teaching and Proficiency (R7)	Proficiency in English (MP6)
7	Teaching of Mathematics (R7)	Yoga Education (MP7)
8	Environment Studies (R8)	Regional Language Teaching Hindi/Sanskrit/Marathi/Urdu Language Teaching(MP8)
9	Arts Education (R9)	Pedagogy of English(MP9)
10	Information and Communication Technology (ICT) (R10)	Pedagogy of Mathematics Education(MP10)
Second Year		
11	Children and Learning (R11)	Cognition, Learning and Child Development (MP11)
12	School Culture, Management and Teacher(R12)	Understanding of Society, Education and Curriculum(MP12)
13	School Education in Modern World (R13)	Emerging Gender and Inclusive Perspectives in Education(MP13)
14	Hindi Language Teaching and Proficiency (R14)	School culture, leadership and teacher development(MP14)
15	English Language Teaching and Proficiency (R15)	Pedagogy of Environmental Studies (MP15)
16	Teaching of Mathematics (R16)	Pedagogy of Social Science (MP16)
17	Teaching of Third Language Sanskrit/Gujrati/Punjabi/Urdu/Sindhi (R17)	Pedagogy of English Language(MP17)
18	Health and Physical Education (R18)	Pedagogy of Mathematics(MP18)
19	Teaching of Social Science (R19)	Pedagogy of Science (MP19)
20	Teaching of Science (R20)	
Optional Papers		
21	Work Education (R21)	
22	Disaster Management (R22)	

Practical Papers

Table 2

S.No.	Rajasthan	Madhya Pradesh
First Year		
1		Towards Self-understanding
2		Creative Drama, Fine Art and Education
3	-	Children’s Physical Health Education
4	School internship	School internship
Second Year		
1	_	Work and Education
2	_	Creative Drama, Fine Art and Education
3	_	Children’s Physical Health Education
4	School internship	School internship

Education for Sustainable Development is an integrated approach covering Environmental, Social, and Cultural and Economic aspects. The effort is made to analyse the syllabus on the basis of above-mentioned aspects of Sustainable Development. Though effort is also made to identify vivid and concrete themes in the aspects mentioned below:

A. Sustainable Development Aspects

- B. Environmental Aspects
- C. Social Aspects
- D. Cultural and Economic Aspects

Sustainable Development Aspects

The aspect of Sustainable Development is divided into various themes such as:

1. Introduction to the notion of development (A)
2. Understanding the Concept and emergence of term sustainable development (B)
3. Principles of sustainable development (C)
4. Need and Significance of sustainable development in contemporary time (D)
5. Challenges to sustainable development (E)
6. Three pillars of sustainability: Social, Environment, and Economics (F)
7. Importance of sustainable development in education (G)
8. Sustainability initiatives in education (H)
9. Role of teachers; reflecting on classroom practices (I)
10. Assignment (J)
11. Mode of Transaction (K)

Table 3

Papers	Rajasthan										
	A	B	C	D	E	F	G	H	I	J	K
R1											
R2											
R3						✓□					
R4											
R5											
R6											
R7						✓□					

R8												
R9												
R10												
R11												
R12												
R13												
R14												
R15												
R16												
R17												
R18												
R19												
R20										✓□		
R21												
R22												
Madhya Pradesh												
MP1											✓□	✓□
MP2												
MP3	✓□											
MP4												
MP5												
MP6												
MP7												
MP8												
MP9												
MP10												
MP11									✓□	✓□		
MP12								✓□		✓□	✓□	✓□
MP13					✓□				✓□	✓□	✓□	✓□
MP14												
MP15												
MP16										✓□	✓□	✓□
MP17												
MP18												
MP19										✓□	✓□	✓□

Social Aspects: The social Aspects of Sustainable Development is divided into following themes:

1. Peace education (A)
2. Justice education (B)
3. Poverty Reduction (C)
4. Gender Equality (D)
5. Social Equity (E)
6. Education for democratic and citizenship (F)
7. Inclusive Education (G)
8. Human Rights Education (H)
9. Children’s right education (I)
10. Assignment (J)
11. Mode of Transaction (K)

Table 4

Paper	A	B	C	D	E	F	G	H	I	J	K
Rajasthan											
R1				✓□	✓□			✓□			
R2											
R3		✓□	✓□	✓□	✓□	✓□		✓□	✓□		
R4											
R5				✓□							
R6											
R7			✓□	✓□	✓□		✓□				
R8											
R9											
R10											
R11											
R12					✓□	✓□					
R13											
R14	✓□										
R15											
R16											
R17											
R18											

R19											
R20				✓ <input type="checkbox"/>							
R21											
R22											
Madhya pradesh											
MP1	✓ <input type="checkbox"/>		✓ <input type="checkbox"/>	✓ <input type="checkbox"/>	✓ <input type="checkbox"/>						
MP2			✓ <input type="checkbox"/>								
MP3											
MP4											
MP5											
MP6											
MP7											
MP8											
MP9											
MP10											
MP11											
MP12		✓ <input type="checkbox"/>		✓ <input type="checkbox"/>	✓ <input type="checkbox"/>	✓ <input type="checkbox"/>		✓ <input type="checkbox"/>	✓ <input type="checkbox"/>	✓ <input type="checkbox"/>	✓ <input type="checkbox"/>
MP13					✓ <input type="checkbox"/>		✓ <input type="checkbox"/>			✓ <input type="checkbox"/>	✓ <input type="checkbox"/>
MP14						✓ <input type="checkbox"/>	✓ <input type="checkbox"/>			✓ <input type="checkbox"/>	
MP15											
MP16										✓ <input type="checkbox"/>	
MP17											
MP18											
MP19											

Cultural and Economic Aspects: The cultural and Economic aspects of Sustainable Development is divided into following themes:

1. Encouraging Indigenous and traditional knowledge & practices and promoting the use of indigenous languages in education (A)
2. Promotion of local cultural specificities, customs and values (B)
3. preservation of cultures and link it to economic

- development (Eco-tourism and cultural industries) (C)
4. Promoting Cultural tolerance and value of universal brotherhood (D)
5. Sustainable consumption: effective and efficient use of resources, reduce wastage (E)
6. concept of green economy (F)
7. Assignment (G)
8. Mode of Transaction (H)

Table 5

Papers	A	B	C	D	E	F	G	H
Rajasthan								
R1								
R2	✓ <input type="checkbox"/>							
R3	✓ <input type="checkbox"/>			✓ <input type="checkbox"/>				
R4								
R5								
R6								
R7								
R8								
R9	✓ <input type="checkbox"/>	✓ <input type="checkbox"/>						
R10								
R11								
R12		✓ <input type="checkbox"/>		✓ <input type="checkbox"/>				
R13								
R14								
R15								
R16								
R17								
R18								
R19								
R20								
R21								
R22								
Madhya Pradesh								
MP1								
MP2								
MP3								
MP4								
MP5								

MP6																			
MP7																			
MP8																			
MP9																			
MP10																			
MP11																			
MP12																			
MP13																			
MP14																			
MP15																			
MP16																			
MP17																			
MP18																			
MP19																			✓□

Environmental Aspects: The environmental aspects of Sustainable Development is divided into following aspects:

1. Concept of Environment, Ecosystem and Biodiversity (A)
2. Need for maintaining the balance of ecosystem (B)
3. Pollution: Kinds, effects and measures to be taken to reduce it (C)
4. Natural Resource Depletion (D)
5. Resource management: Energy, Water, Transportation, Waste etc. (E)
6. Global Warming (F)
7. Climate Change: concept adaptation and mitigation (G)
8. Human Health and Safety: meaning and dimensions (H)
9. Natural and Man-made Disasters- causes, effects and impact on health (I)
10. Disaster management: preparedness, prevention and mitigation (J)
11. Environmental ethics (K)
12. Government initiatives regarding sustainable development (L)
13. Assignment (M)
14. Mode of Transaction (N)

Table 6

Paper	A	B	C	D	E	F	G	H	I	J	K	L	M	N
Rajasthan														
R1								✓□						
R2														
R3														
R4														
R5														
R6														
R7														
R8	✓□		✓□		✓□									
R9														
R10														
R11														
R12														
R13														
R14														
R15														
R16														
R17														
R18														
R19														
R20														
R21														
R22											✓□			
Madhya Pradesh														
MP1														
MP2													✓□	✓□
MP3														
MP4														
MP5														
MP6														
MP7														
MP8														
MP9														
MP10														
MP11														
MP12														

MP13														
MP14														
MP15	✓	□										✓	□	✓
MP16											✓	□		
MP17														
MP18														
MP19			✓	□										

Syllabus Analysis

Theory

According to NCTE, 2014 guidelines, theory course is categorized as foundational course, content and pedagogical courses. However, this segregation was not seen in Rajasthan syllabus, the analysis of its content has been done as follows:

- **Themes related to Sustainable Development:** In general, while assessing the D.El.Ed. syllabus it reveals that the existing syllabus is not giving the due weightage to the major aspects of Sustainable Development in both state Rajasthan and Madhya Pradesh. Sustainable development as a concept has not been included in any of the syllabus. Amongst the four components of sustainable development, the social component has been dealt fairly. In Rajasthan syllabus, various activities have been mentioned in work education that ultimately link to the one or more SDGs such as Hygiene and sanitation, plantation, NSS, primary health education. Again, it is not given in a detailed manner in order to develop the competencies among the prospective teachers for education for sustainable development (ESD). Also, this work education is non-evaluative in nature. Therefore, it is hardly emphasized for learning. Also, assignments and mode of transactions were not listed in any of the papers. The syllabus deals with Sustainable Development only in a superficial manner without going to the depth. The various themes are not even mentioned in the syllabus. Although these are directly or indirectly related with the different themes of Sustainable Development they are treated in accordance with the objectives of the particular paper which is different from that of the objectives of Sustainable Development and its perspectives.
- **Social Component:** Particularly, in Rajasthan syllabus, due importance has been given to the social component of sustainable development as compared to other components that address issues such as social and economic inequalities, diversities, child and human rights, justice, equity, liberty, universal brotherhood, inclusiveness, and responsible citizenships. However, only there is no concept or topic regarding peace that has been addressed explicitly in the syllabus. Due importance has been given to peace education in the teacher education curriculum. It has been stated in National Curriculum Framework for Teacher Education, 2009 that “in order to develop future citizens who promote equitable and sustainable development for all sections of society, it is necessary that they be educated through perspectives of gender equity, the perspectives that develop values for peace, respect the rights of all, and respect and value work” (NCFTE, 2009).
- **Cultural and Economic Component:** In the syllabus

of Rajasthan, importance has been given to rajasthani languages, arts (both visual and performing), regional events, and diversities. However, no linkage has been established to these arts to economic development. Infact, the economic component has not been dealt in both of the syllabus. Also, the cultural component was also not traced in D.El.Ed. Syllabus of Madhya Pradesh.

Environmental Component

Particularly, D.El.Ed. Syllabus of Rajasthan had subjects such as disaster management, environmental studies and work education in which some of the concepts depicted the general awareness regarding some of the issues listed in the table. Further, not all topics have been emphasized equally such as in environmental studies only water as natural resources has been listed. Air, soil, etc. are not discussed. In resource management, only waste has been discussed. Again, it was found that disaster management has been included as an optional paper which is again non-evaluative in nature and not being given due importance by both teachers and student teachers. The natural calamities faced by people all over the world are due to climate change, pollution, human health and safety are not given proper consideration in the present curriculum. There are several initiatives taken by the central and state government that have not been included in the curriculum. These concepts and issues are important for a prospective teacher to know. As this leads to responsible citizens and professional teachers. It has been correctly pointed out in NCFTE, 2009 that “in the present ecological crisis, promoted by extremely commercialised and competitive lifestyles, teachers and children need to be educated to change their consumption patterns and the way they look at natural resources”.

Practical

According to NCTE 2014 guidelines, practical or field engagement courses include professional skills and capacities in craft, fine arts, work and education, creative drama and theatre in education, self-development, children’s physical and emotional health, school health and education. However, it was not the case with D.El.Ed. Syllabus of Rajasthan. It seemed to follow an old curriculum. No practical section has been given separately in Rajasthan syllabus. However, there was a list given in a suggestion form in the starting of the document regarding the practical activities that can be done during the two year D.El.Ed. Program. These activities include project work, case study, psychological test, action research, written and oral expression (through essay writing competition, debate, play, poem, music, storytelling, etc.), painting, scrapbook, poster making, model, collage making, paper mache, seminar, conference, panel discussion, group discussion, quiz competition, extempore, presentation, E-learning, environmental events, question paper development,

brainstorming, and playground development. All these activities were suggestive in nature. Here the suggestion has been given regarding organization and celebration of environmental events. All these activities can be conducted with the view of education for sustainable development. But it is not being conducted as of now. It leaves an open forum for teacher educators to choose amongst the listed activities and evaluate it.

Internship

As per NCTE, 2014 guidelines, internship is the third component of the D.El.Ed. Course that includes a school internship of 20 weeks during the two-year duration in which 4 weeks is dedicated to classroom observations during the first year, and 16 weeks is for full time school internship during the second year. Again, it doesn't seem to be followed in D.El.Ed. Syllabus of Rajasthan. It included a school internship of 40 days in each year where similar activities have been included and performed. It involves activities such as case profiling of the selected school, analysis of any one book (class III-V), and teaching practice (5 lesson plans). D. El. Ed. syllabus of Rajasthan does not reflect any components regarding education for sustainable development in the practical and internship part. It doesn't even fulfill the demands of the contemporary teacher education system. Prospective teachers are being educated and trained in a very conventional manner which doesn't bring the required skills and competencies.

However, a teacher educator with the sufficient awareness and commitment towards Sustainable Development can integrate or correlate these areas with the concept of Sustainable Development. Although there is enough scope in the assignments and the mode of transactions to incorporate the domains of sustainable development. But by seeing the contemporary situation the only hunch is that it is not enough. Through using some more of value orientation and clarification teaching-learning strategies. Providing hands-on and real life experiences for student trainees to internalize the sustainability values.

Education for Sustainable Development is not a panacea to address the multitude of environmental and developmental issues, certainly it is one of the un-disputed tools to solve or prevent new ones. The potentials of education need to be combined with many other measures- policy, legislation, and etc.-to make sustainability a reality. Education for Sustainable Development is interdisciplinary in nature which includes various disciplines. Hence it is applicable for all students irrespective of their subject. The different perspectives of Education for Sustainable Development spread out to all domains of the individuals' personality and life on earth.

Conclusion

Based on the result of the analysis that has been done, D. El. Ed. Syllabus of Rajasthan was old and has not been updated after the introduction of NCTE, 2014 norms. Further, due weightage is not given to the concepts of Sustainable Development and its economic component in both of the states. At the same time, it is also revealed through the discussion with the teacher educators of Madhya Pradesh and Rajasthan, DIET that they don't have very basic information and awareness regarding Sustainable Development. They also interexchange the understanding of

environmental education with Education for Sustainable Development. Due to the lack of opportunity, majority of them are not in a position to understand and appreciate the complex inter relationship between Environment, Society and Economy, which is due to lack of opportunity in the present curriculum.

Since education is the most powerful tool to achieve any desirable social, economic, environmental and cultural goals, and teachers are the most effective agents in the transformation of society, renewal of the teacher education curriculum is inevitable. Inclusion of new concepts in the curriculum should be based on the criteria of its significance and quality with regard to the present and future generation. In this context, considering the far-reaching social impact, inclusion of concepts of sustainable development should be given top priority in education.

Recommendations

1. A monitoring committee consisting of educational experts, teacher educators, school teachers' environmentalists, philosophers, sociologist economists, political leaders and the administrators should be constituted at the state and national levels for developing a unified curriculum on Sustainable Development at all levels of teacher education.
2. The existing teachers and teacher educators should be given orientation in Education for Sustainable Development.
3. The relevant concepts and related content areas with regard to sustainable development, which are spread over in different places of the existing curriculum are to be combined and included under a single broad heading, Education for Sustainable Development. Such an initiative is possible as part of a total restructuring of the entire curriculum in teacher education
4. A central institute or agency should be established at the state and the national level for the coordination of the activities regarding Sustainable Development, in the areas of research, extension, evaluation and guidance.
5. The idea regarding Sustainable Development is to be spread and implemented among people through various programmes with the cooperation of local bodies and NGOs with due emphasis on sustainability principles.
6. Practical works like surveys, projects and case studies related to Sustainable Development should be made compulsory for all student teachers during their practice teaching.
7. Journals, booklets and books regarding Sustainable Development should be published and made available to students and teachers at the state and national levels.
8. Seminars, workshops and in-service courses may be organized for teachers, public administrators, officials concerned and representatives of people.
9. Themes related to Education for Sustainable Development should be included as an item in the inter school and college level competitions, work experience, exhibitions etc.
10. The cultural and social traditions of India should be analyzed and studied in the lights of Sustainable Development and the good practices should be highlighted and the negative practices should be discouraged.
11. Workshops and seminars should be organized to

develop innovative and appropriate pedagogical and evaluation strategies for transacting the curriculum on Education for Sustainable Development

12. Since ESD has no place in the present teacher education curriculum, the existing curriculum on environmental education may be replaced with the suggested module on Education for Sustainable Development.
13. Once the curriculum gets renewed, it needs to be ensured by regulating and monitoring bodies that it comes in the immediate effect in all the institutions. It must not be remained only in paper but must come to the implementation of it.

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