

Redesigning environmental courses for effective environmental protection

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Protection of environment is apparently considered to be an important goal under all stages of education. Special courses have also been designed to achieve this goal. However, there is no visible positive impact on the ground. Several reasons can be attributed for the prevailing situation, which includes our lack of concern and commitment for the environment as an individual and lack of skills to tackle environmental problems, due to ineffective environmental courses. To overcome such barriers it is essential to relook and redesign environmental courses that are being imparted in the school and higher education throughout the country.

The context

Of late, the word 'environment' has become a trendy 'mouthfit' which everybody wants to wear in their speeches just as it is fashionable to wear trendy outfits. At the same time, it is also observed that there has been a surge in the number of environmental courses being offered by colleges and universities, including management institutes. This trend is being seen more conspicuously since the 90s and more so ever since sustainable development and climate change began to occupy the limelight globally. Besides what is trending globally, we are bound by the 1991 verdict of the Supreme Court of India, directing all educational institutions to make environment a compulsory subject for all stages of education, including schools, colleges, universities, technical institutions¹. The nodal agencies appointed by the Supreme Court of India, such as the University Grants Commission (UGC)² for higher education, All India Council for Technical Education (AICTE)³ for technical education, and the National Council of Educational Research and Training (NCERT)⁴ for school education to implement the verdict appear to follow the Supreme Court's order, at least on paper. We also have the National Policy on Education 1986 (ref. 5) and the National Policy on Education 1986 (as modified in 1992)⁶, which strongly advocate for the inclusion of environmental education (EE) in all stages of education. Besides, there are several laws and acts enacted towards environmental protection, the most prominent being the Environment Protection Act of 1986 enacted based on the provision under Article 253 of the Constitution of India (see note 1) following the United Nations Conference on the Human Environment held at Stockholm

in 1972. At present, no other area of education has ever received so much prominence and importance as significantly as we see in the case of EE, thus establishing its exclusive status.

The issue

Evidently, environmental protection and conservation have been, without a doubt, one of our goals of education – school education or higher education^{1,5,6}. The concerned organizations responsible to put into practice the courses and the curriculum in our education systems would very well list down the initiatives undertaken by them towards achieving this. With such overt attention and energy invested to achieve this goal, it is naturally expected that such efforts would bring about environmental literacy across the country, and the result would be reflected in our attitude towards the environment and in addressing environmental issues. It was anticipated that ultimately these would give the environment some respite from its unprecedented exploitation and degradation. But the not-so-desirable result is all around for all to see. Unfortunately, our existing approach to environmental topics in the courses and curriculum did not seem to have any impact in any way on the ground. Nothing seems to have improved inspite of having made environmental studies a compulsory subject in school and higher education for years now, if not for decades. Instead, environmental problems appear to be getting worse by the day. We observe increasing deterioration of our environment, be it the forests, our waters, air, soil, etc. This is a matter of serious concern and a huge challenge for the nation. Who do we blame for this debacle? In this situation, it will be worth-

while to ponder over the possible reasons for this state of affairs.

A few questions come to our mind instantly: Are we as individuals even serious to protect our environment? Is there something amiss in the way we approach EE through our courses in schools, colleges and universities? What are the barriers that are causing hindrances in our attempt to educate our students in this area? One thing is clear – each one of us, as an individual, is not seriously concerned about the environment. This is evident from the fact that though we are aware of many environment-friendly practices, we hardly put them into practice. For example, using polythene bags is not environment-friendly. Yet we go shopping intentionally empty-handed relying on the substandard polythene bags to be provided by the shopkeepers. How about our choices in buying products? Do we take into account environmental impacts when we buy electronic equipments, gadgets, electrical appliances, etc.? Do we even consider using energy-efficient bulbs in our homes? Do we stop burning stubbles in agricultural lands spread over acres and hectares in spite of knowing that it causes severe air pollution? Do we ever give up our many age-old practices involving rivers and other water bodies in spite of knowing that such practices contribute in making the water bodies unsafe and hazardous? Do we think twice before we buy the third or fourth car for our family? It appears, rich or poor, our decisions are directed just by one factor: Our buying is purely based on our purchasing capacity. If my family does not have two or three cars, then it is not because I do not 'want' it, it is because I cannot 'afford' it. 'Need' is not even an option that we keep in our decision-making process. This attitude is what is turning out to be one of the

strongest forces that hinder protection and conservation of the environment. Somehow we fail to realize, or our education has failed us to realize that the more we consume, the more the production, consequently the more the exploitation of resources and ultimately the more deterioration of the environment.

Present scenario of EE

To understand the prevailing status of EE in the education system in our country, let us consider the courses that are being offered in the name of EE at the school and higher education. Looking at such courses we cannot deny the fact that the courses do have ample scopes to educate students in the area of environment, based on the syllabus. For example, if we glance through the syllabus of school education, irrespective of the state, we will find adequate topics related to the environment spread all over the course of different subjects beginning class III till class XII. Then we have the UGC guidelines to make environmental studies compulsory for all students, irrespective of the course they offer. AICTE follows similar guidelines. With these arrangements in place for all education systems throughout the country, it is quite surprising, why it is that we are not able to see any positive results around us or even in our own attitude towards the environment. To our own surprise, the reason is rather simple. We are all aware of the hard and hidden truth. Teaching environmental topics is becoming few and far between in schools. It receives little to no attention because there are so-called 'more important' topics in science. The trend is worse when it comes to higher education. The compulsory environmental studies course is simply there without any earnestness shown by students and teachers alike.

Teacher (un)preparedness

Now let us consider for a moment that teachers, at the school level and college level, have decided to consider EE seriously in their teaching-learning process. Given such a situation, do we assume they will have the expertise to do justice to the course? Do we conclude that all that a teacher needs to do to transact environmental topics is to transmit envi-

ronmental facts and processes? Then it is about time we change our thinking and approach altogether.

Unfortunately, it is not about knowing environmental facts and figures that will do any good to our environment but taking some environmentally-responsible action that will contribute in healing our environment. It is about making students feel responsible about nurturing the environment and empowering them with the necessary skills to address environmental issues besides knowing facts and figures about the environment⁷. Unfortunately, this aspect has been completely ignored so far in our teaching-learning process. The basic reason being, EE is considered to be the subject matter of a botany, a zoology or an environmental science teacher who is purely a 'science' person and hence the way environmental topics are approached is completely disciplinary. However, we know that EE is interdisciplinary in nature, and hence to do justice to the subject/course, teachers must necessarily consider certain subject areas in their teaching-learning process of environmental topics or environmental studies. Such areas include: (i) environmental science, so as to know the scientific facts, figures and processes related to the environment, (ii) social sciences, so as to understand social milieu, constitutional provisions and social issues associated with environmental problems, including historical facts and legal aspects, (iii) psychology, so as to understand the thought process or mental capacity of students of different age groups which will enable teachers to look for possible ways to influence the students towards environment-friendly habits, thinking, attitude or behaviour, or how persuasion can work in this regard. These will contribute in encouraging students to inculcate environment-friendly actions^{8,9}. However, no such courses are offered at present which would cater to all the areas mentioned. Therefore, it would be appropriate to offer basic training for a stipulated duration to all such teachers who would be teaching environment-related courses. Besides, ethics and values are fundamental to EE and hence environmental courses can be most effective amongst the students when teachers themselves are role models. For example, no student would take a teacher seriously who preaches to use public transport but himself moving around in the least fuel efficient and most polluting car, carefree.

Passionate teachers having genuine concerns for the environment is what will make a difference in transacting the course and ultimately impact students' attitude towards the environment.

Need to change our approach

Of late, climate change has become the topic of every discussion and 'clean energy' as a solution to climate change. No doubt, the efforts in this direction are much appreciated and we need to continuously put in our endeavours toward this. But is the way we have narrowed down environmental issues to climate change the right move? In doing so, are we not becoming more dissociated with the small yet critical environmental issues around us, such as those of safe drinking water, waste management, drainage issues, small hazardous recycling units, etc.? There seems to be an imbalance in our approach at addressing environmental issues. One might say that clean energy has much to do in every individual's daily life, as in using solar energy for heating or lighting, etc. But whenever climate change and clean energy are included in our school or college courses, the focus is towards the large-scale production of solar or wind or hydro energy which will be worked out by the Government or by some big industries. Measures to be adopted at the individual level are hardly reflected. And this brings in a sort of disconnect between what students are taught and the issues facing a common citizen in their vicinity. This makes students feel that environmental issues are Government's problem that would be taken care by the Government. They do not find the need to be concerned about. Therefore, at the end of such a course what the students achieve is information-based knowledge on climate change and clean energy without any exposure, experience or expertise on how they can apply such knowledge in their daily lives and contribute in their little own ways to tackle the issues.

Therefore, our curriculum on environmental courses should focus on local environmental issues which students face daily and empower them with the necessary skill to resolve such issues. Further, activities which involve exposure of the students to nature must also form a regular feature in the curriculum. Frequent

contacts with nature through such exposures are more likely to instill interest amongst the students to work for its protection¹⁰. Project-based study or active participation in some environment-related areas is the way out to make EE relevant and effective in the present scenario instead of the theory-based EE. For this, students till the high school can take up projects which could be related to waste management in their vicinity, energy or water consumption in their schools and homes, toxic chemicals present in different commodities of daily use, etc. For students in colleges, they can take up some studies covering topics such as consumption of electronic items, plight of people working in small recycling units, issues of the slum-dwellers, municipality waste collection and management, bio-medical wastes, conservation of local water bodies such as lakes or rivers, man-animal conflict, issues of migration towards town and cities, etc. Only locally relevant projects must be taken up by the students so that students are physically present in the site/field and not substitute it with internet-based study. Besides, such projects should lead to certain measures to address the issues. Students can also be engaged in educational centres such as zoological or botanical gardens, protected areas and other nature centres as volunteers or as interns to interact and educate the visitors about the animal and plants and their role in the ecosystem. Similarly, students can also be engaged in museums to explain about the artefacts and other important historical accounts.

Conclusion

We cannot wait for the Government to solve all environmental problems. Government takes decisions at the policy level. Often we may even sense a lack of commitment on its part. But ultimately it is we, the citizens, who have to put the policies into practice. And for that matter every individual action counts. For example, in the recently concluded COP21 meeting held at Paris, it was reiterated that countries will continue pursuing efforts to limit the temperature increase to 1.5°C. Just because countries have agreed does not mean that temperature will automatically be controlled. Everybody has to contribute to see it happen – individuals, institutions, industries, etc.

There is no short-cut to achieve it. It has to be a sustained effort by all stakeholders. The most convenient solution often thought of to tackle environmental problems is to bring in the role of judiciary. But we know that laws or imposition of penalties can never be a long-term solution to our environmental problems. Because there will be people who will always get away by dodging, by resorting to fraudulent practices or by paying the penalties or worse still, by evading law, especially those who are rich and powerful.

We might have degrees in environmental science or have the best research publications in our names, or have read all such publications. But if we cannot put them into practice what we know, such degrees, papers or knowledge make little sense. Neither teaching environmental science in schools and colleges will ever be a fool-proof solution. It is neither our improved economic condition nor our increased knowledge about the environment that is going to contribute in restoring the environment. Some of the ‘saviours’ of our environment like Sundarlal Bahuguna, Saalumara Thimmakka, Prajapati Mansukhbhai Raghavijbhai, Jadav Payeng, Rajendra Singh, the late Kallen Pokkudan are neither wealthy nor have the ‘right’ environmental science education nor do they have the best international publications in their name. All they have is the right environmental attitude – concern and the passion to take care of the environment they live in and the community they belong to. Therefore, the need of the hour is to relook and redesign all environmental courses, both for students and teachers, so that they bring about attitudinal change amongst the students towards the environment and at the same time provide them with the necessary skills to be able to contribute effectively, besides imparting environmental knowledge. Our education need to take us from ‘knowing’ about the environment to the level of ‘doing’ for the environment. These aspects must form the basis for all environment-related courses being offered throughout the country, irrespective of the stage of education. All concerned stakeholders need to seriously consider to move in this direction if we are sincerely committed to make some impact in our efforts to protect the environment through the medium of education.

Note

1. Article 253 of the Constitution of India (1949): *Legislation for giving effect to international agreements* – Notwithstanding anything in the foregoing provisions of this Chapter, Parliament has power to make any law for the whole or any part of the territory of India for implementing any treaty, agreement or convention with any other country or countries or any decision made at any international conference, association or other body.

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3. Curriculum for environmental studies (mandatory for all programs); http://www.aicte-india.org/downloads/Environmental_Studies_curriculum.pdf#toolbar=0 (accessed on 9 October 2015).
4. Supplementary affidavit submitted on behalf of Respondent no. 40, i.e., NCERT; http://ncert.nic.in/book_publishing/environ_educ/Affidavit.pdf (accessed on 9 October 2015).
5. National Policy on Education, Government of India, 1986; http://mhrd.gov.in/sites/upload_files/mhrd/files/document-reports/NPE-1968.pdf (accessed on 9 October 2015).
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