

ENVIRONMENTAL CURRICULA DEVELOPMENT FOR EACH AGE GROUP

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Summary

In this chapter we argue that if we are serious about protecting nature and the environment in the interests of both present and future generations, environmental as well as associated moral studies must be developed as mandatory subjects to be included in the formal curricula for preschool, primary school and secondary school education. The rationale for this, it is argued, is that how we treat nature and the environment is fundamentally determined by our attitude to them, and our attitude is shaped by our moral values. And moral values are easier to instill in young, uncluttered minds than in adults.

Discussion begins with the traditional approaches to school education and how formal educational curricula evolved in the Occidental context. Discussion then shifts to some of the key *affective factors* of personality that influence the formal teaching-learning

process. Some basic criteria for curriculum development are then discussed for all three levels — preschool, primary and secondary. Then environmental curricula, including associated moral studies, are outlined for all three levels. Finally, attention is drawn to the mechanisms for introducing environmental curricula into schools.

1. Introduction

A curriculum may be construed as an educational *ideology* in the sense that it consists of the two elements that characterize an ideology: a set of ideas held by a group of people about what education is or ought to be (this refers to the *content* of a curriculum); and formal arrangements for the delivery of education (called *pedagogy*). Also, if we accept that ‘knowledge is power’ — and it is generally perceived to be so — then by definition education must be a political activity, too. Because politics are about power and in particular about how to acquire it, distribute it, and use it.

Davies (1969) and Cosin (1972) describe four ideological approaches to formal education that are not necessarily mutually exclusive:

- The *romantic* approach (also called the *individualist* or *psychological* approach) which puts emphasis on individual human development.
- The *conservative* approach (also called the *elitist* approach) which seeks to maintain cultural supremacy.
- The *democratic socialist* approach (also called the *liberal* or *egalitarian* approach) which aims to offer equal educational opportunity to all by progressively removing elitist values.
- The *technocratic* approach (also called the *revisionist* approach) which seeks to provide vocational education in scientific and technological disciplines that society considers essential for socio-economic development.

Historically, different ideological approaches to formal education have produced their own matching curricula and pedagogical arrangements. Typically, in the United Kingdom the public school ethic, which predates even the British Empire, has been a notable outcome of the *conservative* approach. This ethic favors character and physical prowess over intellect. Not surprisingly, therefore, activities for character-building and physical fitness feature prominently in public school curricula. At the other end of the spectrum, the *democratic socialist* approach was vigorously promoted in the United Kingdom in the 1970s as a politically-driven and morally sound ideology. The declared objective was to give all children equal opportunity for quality education over a wide ability range at what are called *comprehensive* schools (whose curricula are based on the *comprehensive* ethic).

In the Occidental context the evolution of curricula can be traced back to the three distinct philosophical traditions of *humanism*, promoted by Plato, Erasmus and Locke; *rationalism* promoted by Plato and Descartes; and *naturalism* promoted by Rousseau. The first two — *humanism* and *rationalism* — have dominated curriculum development in Europe and much of the rest of the world mainly through colonial influence. These traditions may be said to be essentially anthropocentric in the sense that both emphasize the importance of human beings and of the human character. Also, both acknowledge

the importance of reason and accept that knowledge is *external*, to be accessed and assimilated by individuals. (As a matter of interest, the ancient philosophical tradition of India also holds that all knowledge is external in the sense that it resides in and emanates from The Supreme and can only be accessed by His mercy through a *Guru*).

It is interesting to observe that the different ideological approaches listed above originated and evolved in response to specific socio-cultural and/or economic demands of the time. For example, the origins and evolution of the conservative approach (the public school ethic in particular) in the United Kingdom can be traced back to the perceived need of the British upper (ruling) class to reinforce and maintain its socio-cultural hegemony over the middle and lower classes. Similarly, the technocratic approach originated and evolved in response to demands for technocrats equipped with up-to-date technical knowledge and skills to serve business and industry.

Like generations past, our generation has its own concerns and preoccupations too. However, unlike past generations, a major and growing concern of our generation is for maintaining the integrity of the natural environment and systems that support and sustain all life on earth. Given the mounting degradation of the natural environment and life support systems by practically all human activities in pursuit of economic development, this concern is likely to deepen in the future. Clearly, therefore, in order for matters to improve with particular regard to intergenerational equity, effective strategies for environmental protection and sustainable development must be incorporated into formal curricula at all levels with the importance they deserve.

The prevailing educational ideologies, if imaginatively revised in this way, are expected to bring two major environmental benefits. First, alerting societies at large to the adverse consequences of relentless environmental degradation and to resulting deterioration of quality of life. And second, people's fundamentally exploitative attitude to nature and the environment is likely to give way to one of care, respect and prudent husbandry characterized by less polluting and less consumptive lifestyles that are a core requirement of sustainable development (WCED, 1987; Nath, 2000).

In the final analysis how we treat nature, and the natural environment that provides all our life support systems, is fundamentally determined by our attitude to it. And, our attitude is, in turn, shaped by the moral and ethical values we hold. Science or technology, however clever, cannot help instill those values in us. Only introspection and philosophy can. To test the veracity of this assertion, ask yourself these questions: why is it that despite international agreements, treaties, conventions, a plethora of environmental legislation and fantastic science and technology at our disposal, both quality of life and the global environment are actually deteriorating? And, why is it that so little has so far been achieved globally towards sustainable development which, according to the Brundtland Report (WCED, 1987), is the only kind of development that can secure an acceptable quality of life for both present and future generations? Arguably, it is our moral values that fundamentally shape our world-view of things, set us apart from lower animals, and give us our humanity. It is clear therefore that environmental and moral studies should begin at the preschool stage and become mandatory in primary and secondary education and beyond (also see Section 2 of *Importance of Teaching Environmental Education at an Early Age*).

2. Some Affective Factors of Personality

In order for the teaching-learning process to be effective, for all age groups — preschool, primary and secondary — the development of curricula and the process itself must be based on certain basic and common criteria. However, before we elaborate on those criteria — and we will do so in section 3 — it is necessary to consider some of the so-called *affective factors* of personality. As a part of the human condition itself, these factors can and do influence, in varying degrees depending on the individual's psychological make-up, the ability of pupils and students to learn and the ability of teachers to teach. In what follows we will discuss some of these factors which refer to all the elements that make up personality and can influence the teaching-learning process (we have already discussed one of these factors, *motivation*, in some detail in Section 3.2 of *Importance of Teaching Environmental Education at an Early Age*).

2.1 Attitude and behavior

As we might have expected, there is no unique definition of attitude on which psychologists or educationalists generally agree. In fact, there are several definitions, of which the following are typical:

'An attitude is a mental and neural state of readiness, organized through experience, exerting a directive or dynamic influence upon the individual's response to all objects and situations with which it is related' (Allport, 1935).

'...attitudes have a social reference in their origins and development and in their objects, while at the same time they have psychological reference in that they inhere in the individual and are intimately enmeshed in his behavior and his psychological make up' (Warren and Jahoda, 1973).

It is generally accepted that attitude is a relatively permanent orientation towards people, objects, issues and the world at large that an individual develops during his or her life and which he or she holds and expresses as opinions. Indeed, it is attitude that shapes an individual's world-view of things. In general, attitude is a product mainly of the moral values or beliefs that the individual holds, as well as of his or her life experiences and factual knowledge of things (or what the individual perceives to be factual knowledge).

The primary role of moral values in shaping attitude is easily demonstrated. For example, a meat-eater's attitude to cattle is fundamentally exploitative and shaped by his or her moral values that allow him or her to eat beef. A strict vegetarian, on the other hand, has a different set of values, and therefore a very different attitude that makes slaughtering cattle for food, and indeed the meat industry itself, morally indefensible.

According to Freudian theorists an individual's attitude has two elements that can sometimes be in conflict — a *conscious* element and an *unconscious* element. For example, for whatever reason an individual may have an attitude of intense hatred for someone. But normally he or she will be deterred by guilt feelings from consciously admitting to it or articulating it. And so this 'true' attitude remains suppressed in the

individual's unconscious, and he or she resorts to subterfuge if or when necessary to conceal it.

Does an individual's attitude influence his or her behavior? Clearly, if the individual has a certain attitude, he or she will be predisposed to behave in line with that attitude. Even so, how actually he or she behaves under a given set of circumstances is determined by other factors such as how others would perceive his or her behavior, and the immediate consequences of that behavior. Even if the individual felt like showing anger or aggression, for example, he or she may not actually do so for fear of being judged adversely by others, or for creating an embarrassing 'scene'.

Clearly, in order for the teaching-learning process to be effective, a child's attitude to the teacher(s) must be one of respect, for it is only then that he or she would be predisposed to assimilate what is being taught. No one has automatic claim to respect, however; it has to be earned. And a good teacher does so by example, by demonstrating the depth and scope of his or her knowledge of the subject, and by being generally helpful. An unhelpful teacher with an authoritarian attitude coupled with meagre knowledge of the subject is unlikely to command the respect of his or her class.

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Biographical Sketches

Professor Bhaskar Nath received his Bachelor's degree in Civil Engineering from the Indian Institute of Technology, Kharagpur, India, in 1960, followed by the Ph.D. degree from the University of Wales, UK, in 1964. In 1983 he was awarded the D.Sc. degree by the University of London for his outstanding original research (according to citation) in numerical mathematics. In 2001 he was awarded the *Doctor Honoris Causa* (Dr.H.C.) by the University of Chemical Technology and Metallurgy, Sofia, Bulgaria, for his contribution to environmental education.

After having taught at the University of London for more than 27 years, currently Professor Nath is Director of the European Centre for Pollution Research, London; Executive Director of International Centre for Technical Research, London; Editor of *Environment, Development and Sustainability* published by Springer; visiting professor to several European universities, and consultant to a number of international companies and organizations. Professor Nath's research interests include Numerical Mathematics, Elasto-Hydrodynamics, Philosophy, Environmental Economics, Sustainable Development, and Environmental Education. He has more than 100 scientific publications in these and related areas including 13 books.

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