

B.I.O. CURRICULUM: THE 'BEYOND' CURRICULUM

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A new reality is leading us into the 21st century caused by the numerous and enormous advances in human technology: test-tube babies, biogenetics, satellite communication, world-wide computer networks, artificial intelligence etc. These gigantic advances have given us the tools to improve our existence in all aspects of life, but unfortunately, technology and the natural bio-systems do not always converge. We must apply the rules, rhythms and systems of life to technology in order to make technology improve life and to bridge the gap between technological processes and human values.

In light of the above, we find that the educational curricula that exist today are inadequate for teaching the 21st-century person, since they are outdated with respect to content, values and methodologies. There is a dire need, therefore, for a new kind of curriculum which will serve as a vehicle for converging bio-ideas and their related values. The new curriculum should increase our awareness of the need to unify life and technology, help us grasp the world as a vast system, provide us with the proper tools to address and solve legal, theological and ethical problems arising from new technological advances, and foster the growth of greater personal responsibility by every individual.

The curriculum

Curriculum planning is always a complicated and difficult task, and planning a curriculum on bios is no different-perhaps even more demanding-as it calls for a unique combination of features. In terms of its characteristics, the curriculum in bios should:

- a. be interdisciplinary (i.e. non-compartmental), integrating various areas of knowledge
- b. concept and value-oriented
- c. develop appreciation for fine arts and music
- d. foster awareness and sensitivity
- e. integrate knowledge with the vehicles or tools for knowledge, i.e. the reasoning skills (including creative thinking)
- f. combine all the above with relevance to the learner.

The uniqueness of this curriculum does not lie only in its holistic approach, or in that it aspires to prepare the learner for the future, but rather in the fact that it will be taught in different parts of the world at the same time. Children all over the world, both in developing and developed countries, will be studying the same materials and will be making combined efforts via an international computer network to solve the same problems.

The curriculum will serve as a bridge between the developed and developing world and as a bridge for peace. One can envisage the impact such a curriculum might have when simultaneously followed in hostile countries. Studying the same curriculum emphasizing the element of reciprocity and the need for cooperation might lead to the realization that common interests can overcome political differences.

The B.I.O. curriculum: the 'beyond' curriculum

The objective of this curriculum is to take the individual beyond himself or herself and beyond the 'here' and 'now.'

- Beyond the I-means going in the direction of others.
- Beyond the Now-means thinking and planning for the future.
- Beyond the Here-means realizing that one's responsibility does not end with one's self and one's immediate locus and temporis.

The following folktale could illustrate the concept of transcending the self, the here and the now. There is a story about a person who was removing big stones from his field in order to make the field workable. He threw them into the public domain. It happened that a certain wise man reprimanded him and said to him: "Why are you removing stones from a place that is not yours and throwing them into your own place?" The owner of the field only laughed at him. Sometime later, the farmer was forced to sell his field and while he was walking in the same

place, he stumbled on the very same stones which he had thrown out. Then he said to himself: "It's not for nothing that the wise man said to me 'You are moving stones from a place which is not your property into a place that is yours!'"

From theory to practice:

The Structure of the Study Unit. The proposed curriculum will be thematically based and will accompany the child from an early age to adulthood while always maintaining adequate relevance to the child's fields of interest, level of competence, intellectual ability, emotional maturity and surroundings. The curriculum will be modular and composed of several study units, each of which will be interdisciplinary. (Figure 1).

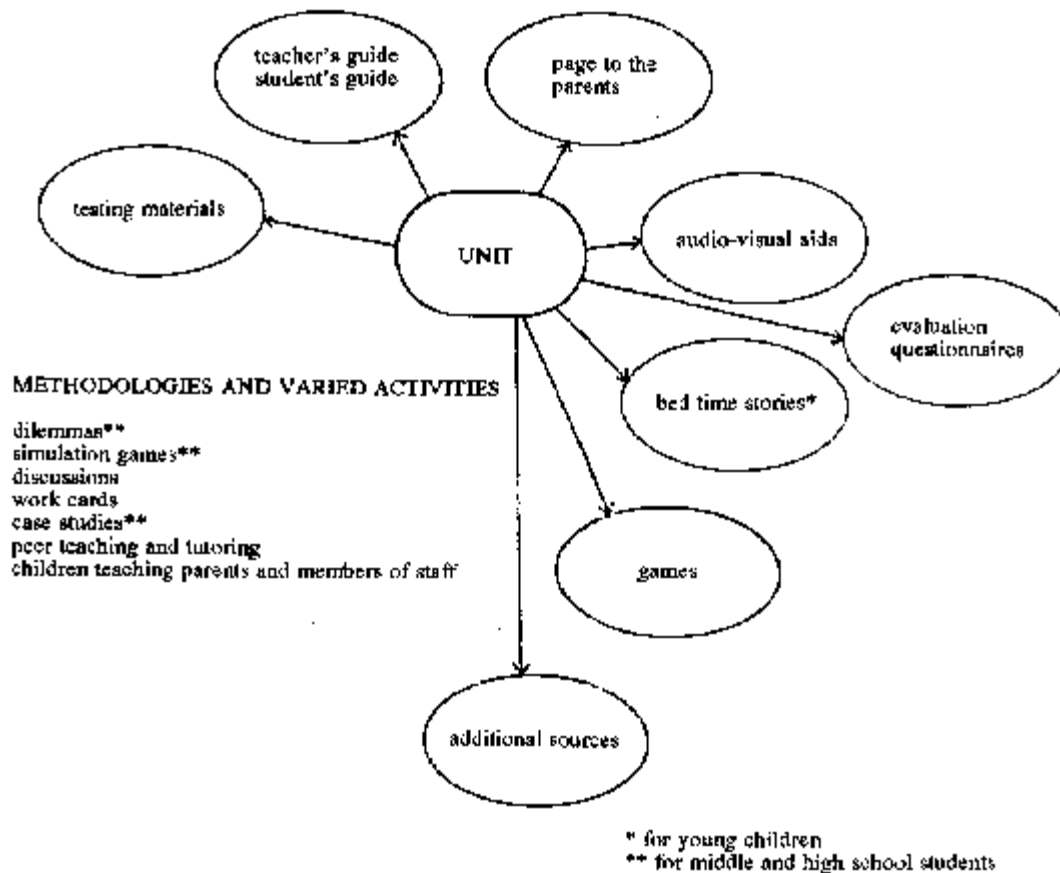


Figure 1: The structure of a Study Unit

Until now, we have dealt with the technical aspects of the curriculum but what will this curriculum entail in terms of content? The first step should be to map the main topics which are to be included in such a curriculum, later breaking each topic into sub-topics, etc. The second step would then be to build the relevant study units.

Let us assume that we need to map such a broad topic as water. The mapping will look as follows:

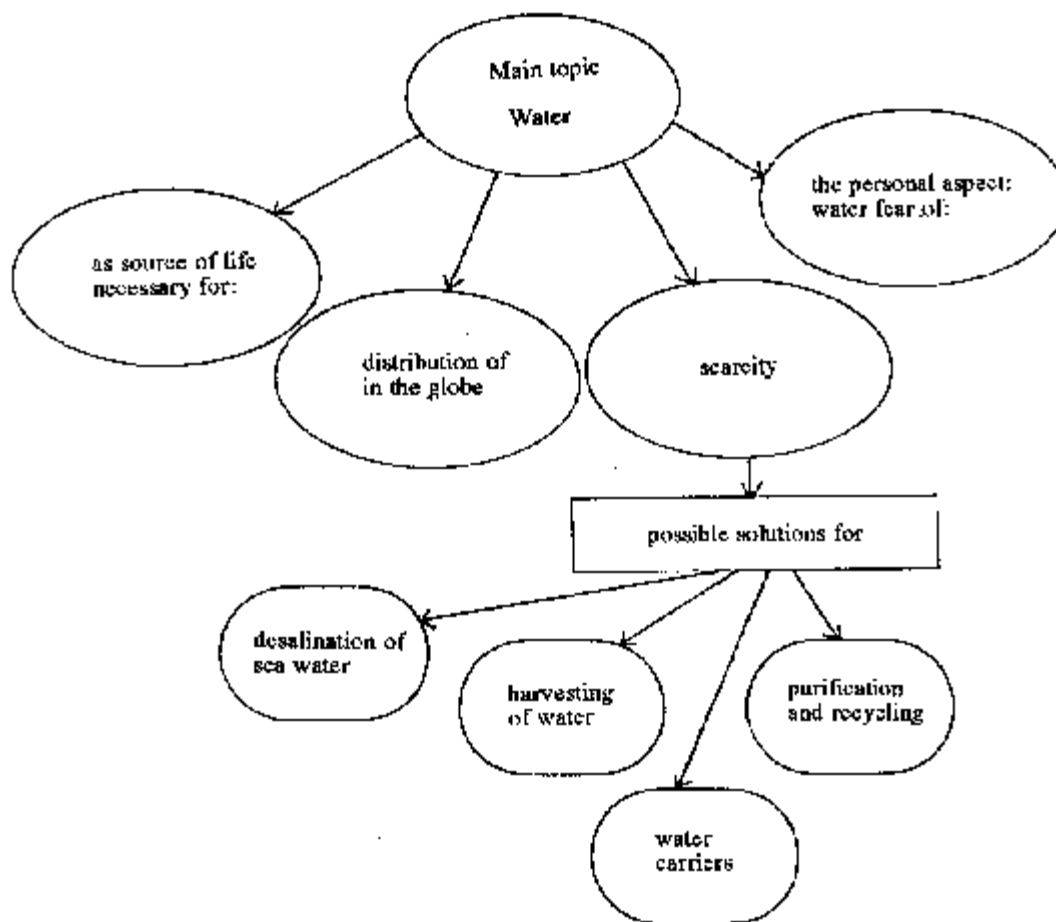


Figure 2

An Example. Let us now consider an example of a possible study unit: The Desalination of Sea Water. We are all aware of the acute water problem the world is facing. Time International devoted its November 5th edition to the world's water problem, in an article entitled "A Precious Resource Gets Scarcer". The following diagram shows the various knowledge areas, concepts, values and thinking skills involved in a study unit:

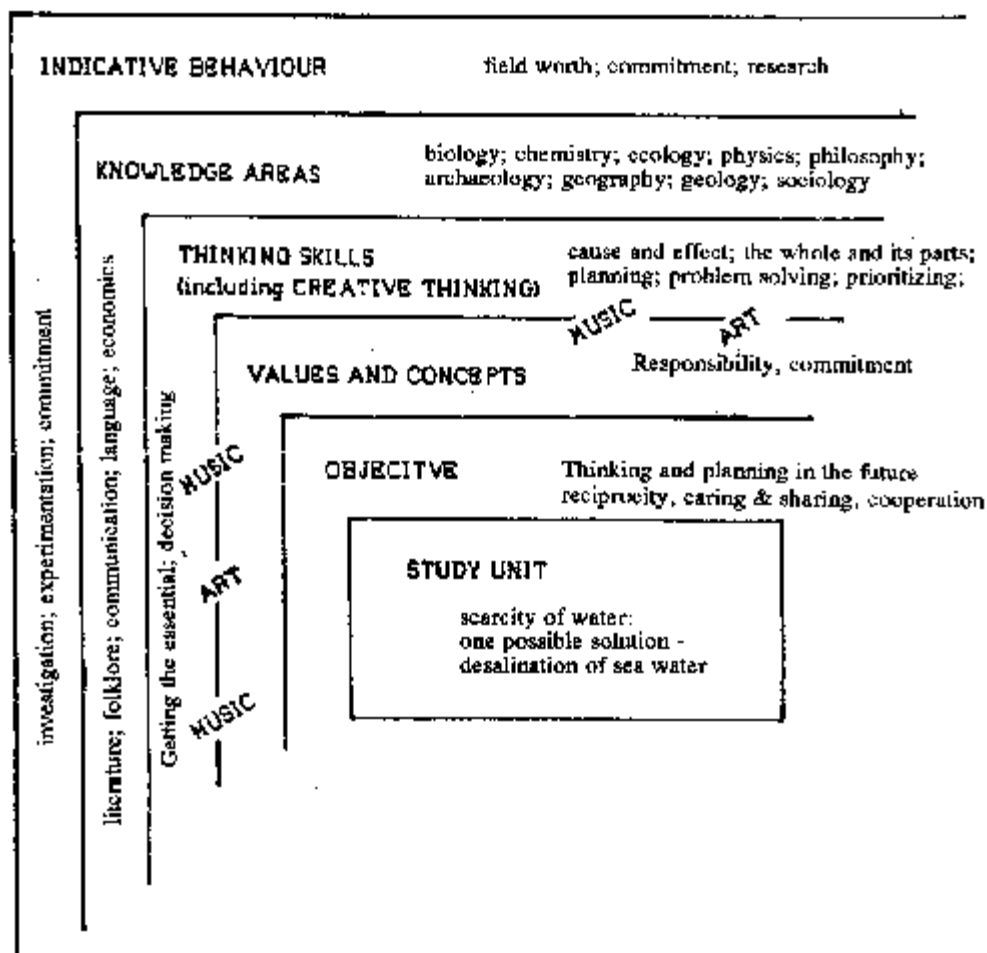


Figure 3

The actual meaning of Desalination of Sea Water, its importance and its urgency, will vary from place to place. Since the proposed curriculum will be international and will be implemented in diverse cultural and physical environments, there will be a need to adapt certain chapters to suit different target populations. The core curriculum will be the same, yet the components unique to a certain culture or environment will vary. The following figure illustrates this approach:

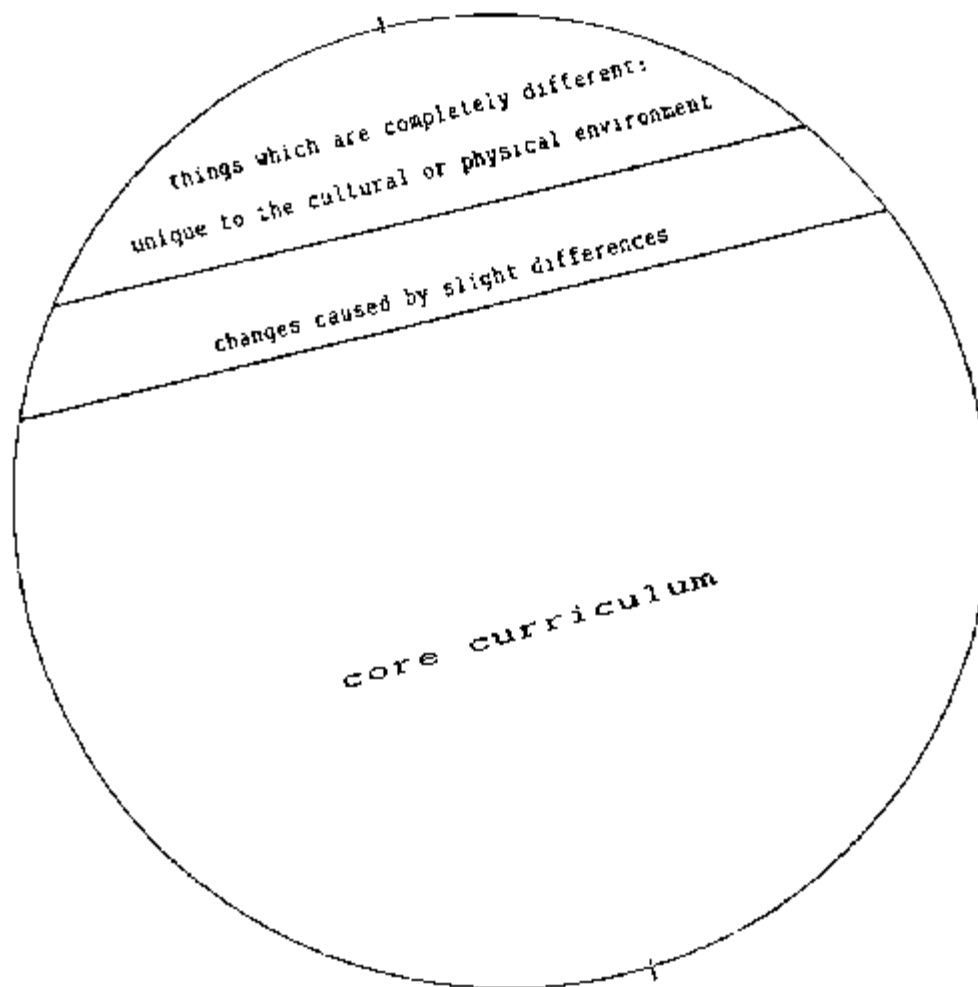


Figure 4

The Bio-School

The Bio-School should serve as a community center and thus integrate learners and the community. Courses in bios should be offered during the afternoons and evenings to parents and members of the community at large. Workshops in creative and inventive thinking will be offered by the school for students, teachers and parents, and children and adults alike in order to solve problems in the spirit of bios. Creativity helped us attain unprecedented innovations; now we have to call upon creative thinking to help us preserve what is most precious to us all - the bios.

The proposed curriculum also entails the creation of an idea room at the school which will be visited by the school, community and members of the community at large including local industry. In the center of the room, there will be a large board where visitors will be welcome to write new ideas inspired by the philosophy of bios. Others can then come and add or elaborate on these bio-inspired ideas. The room will also serve as an art studio for students, teachers and community members to create art works consonant with the bio-idea. There will be reciprocal learning in the school, in the home and in the industry where learners and members of the industrial world will interact with visits and apprenticeship programmes.

Until now, we have depicted the Bio-School as a community center, a static, central installation visited by students of all ages. Now let us look at another version of the Bio-School: a mobile school which will arrive at remote places which are less equipped with the latest technological equipment and not often visited by the best teachers. The mobile school will be fully equipped with the latest innovations in educational technology and will have its own generator for electricity. A team of teachers will staff this 'moving school' which will serve as a school during the day and as a community center in the afternoons and evenings.

The mobile school will 'travel' during the week from one school to another, so that all schools in a certain area will be visited at least once a week in rotation. Several mobile schools will operate in different areas of the same country according to a carefully planned schedule.

Teacher training and methodologies

A word of caution. Institutions are often rigid and resistant to change, and educational institutions too fall into this category. Teachers are very

often hesitant to implement innovative ideas and curricula. If we want the Bio-curricula to survive and succeed, the teachers who would be a part of this educational effort should be carefully selected-ensuring that they are comfortable with the philosophy of Bios and undergo intensive training to know how to project the program from the written page into the classroom. They will not only be trained in the subject matter, but more so in new methodologies.

Teachers will be trained by people from the technological and industrial world as well academicians. They will undergo a set of courses in creative and inventive thinking and also be trained in team-work and team-teaching, so that each lesson, each learning session, will be infused with the holistic approach that is part of the bio-curriculum.

What kind of learner will be shaped by this curriculum?

Our student will be a thoughtful and a thinking person, open to new ideas, ready to try new, innovative approaches, tolerant of others, self-knowing, and sensitive to others in such a way that he/she can go beyond him/herself, but not to lose him/herself; someone who can express his/her responsibility and commitment to the greater environment in a constructive and resourceful way; flexible, capable of handling different eventualities which the future will certainly supply. In short, this person will soon realize that whatever he/she has learned is likely to be outdated no sooner had he/she left school, and still feel confident that he/she can cope with the everchanging reality and still be able as is written in the Bible 'to work the land and to preserve it'.

Professor **Edna Apeh** has been Associate Professor at the David Yellin Seminary for Teachers in Jerusalem, since 1991. Her wide ranging career includes publications, presentations, seminars and workshops, specialising in areas including the teaching of Hebrew language and literature, the development of thinking skills and the methodology of language teaching. She is currently working as a consultant with the Education Department and the Pedagogic Secretariat, in the Ministry of Education, Jerusalem. She was previously a consultant for Curriculum Development in Carmel College, UK, and Winnipeg, Canada, for the Jewish Board of Education. Her recent books include Thinking for Youth, co-authored by Tamar Gilo, for the Open University and the Branko Weiss Institute.