

Ecology, Environmental Education and Art Teaching

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In: Piironen, L. (Ed.). (1992). *Power of Images*. Helsinki, Finland: INSEA Research Congress, Association of Art Teachers, pp. 17-26.

"To say that the individual can do nothing is a terrible and mistaken idea."

Arne Naess

We are in the midst of an inevitable period of change in our culture and lifestyles. The ecological crisis has awakened us to realize that human action and life itself must be seen in a more holistic way than before, and that we must creatively adapt our way of life to ecological reality. In other words, we must take the state and needs of nature seriously. The concept of sustainable development has been introduced as an important aspect of environmental education in Finland's comprehensive and senior secondary schools. Sustainable development means satisfying basic human needs without endangering the opportunities of future generations to meet their own basic needs. Sustainable development is in harmony with ecological processes, biological diversity, and the sufficiency of natural resources. What does this mean for art teaching, and what challenges does it pose for the art educator?

We are not experts in the sciences, nor are we qualified to spread scientific knowledge. Nor are we equipped to explain the environmental effects of decisions made in society. However, over the past two decades, art teaching has seen environmental education as an important area of this subject. A new development in art education in the past few years has been an increasing emphasis on nature, along with the issues facing

the built environment. In my view, ecological thinking and action - in the holistic sense - should in today's world be regarded as a guiding principle of all education, including art, and not only as a separate area. Art education can play an important role in the new environmental education. This claim is based on five points, in all of which I rely on the artistic comprehension of life and the environment and the opportunities open to artistic influence.

1) Experientiality, appreciating one's experiences and emotional expression and the subjective processing of things - all belonging to art education - form a necessary but often neglected level of environmental education. However, a genuine appreciation of nature, an interest in the quality of the built environment and motivation to act for the good of the environment (i.e. ethical attitudes and action) are based above all on positive and valued experiences which are often of an aesthetic nature. These experiences can be generated by open and immediate contact with the phenomena of nature and the often new and fresh view of such phenomena that art provides. Moreover, comprehending the man-made environment, and the ability and enthusiasm to "read" or interpret and evaluate it, and to improve it, finds both cause and effect in immediate, individual, and often aesthetic, experiences. Related to this is the process of discovering and creating one's own meanings for the phenomena of the environment. Once this stage has been reached,

they are no longer irrelevant but significant and valuable in a personal sense.

Experiential learning appears to be the most fruitful functional principle in environmental education. Art teaching offers especially good opportunities for following this principle consistently, since art education gives such self-evident weight to the importance of one's own mental images and the tradition of learning by doing. Experiences and observations of the environment are treated through mental images, tangible pictorial expression, and other artistic activity. It is active and often pleasant cognitive action and learning. However, art education must also develop the levels of reflection and conceptualisation, in order to round off the whole process of experiential learning.

2) Sustainable development is not only directed towards conservation but also - and in an essential way - towards the future and the creation of new things. In other words, we are dealing with the creation of better environments, objects, and lifestyles. We must also be able to create positive visions and concepts of the future that are as clear as possible. These future-oriented areas of culture most clearly belong to the field of art education. Designing is carried out visually with two- and three-dimensional models and studies. It is possible to simultaneously consider various, e.g. social, scientific, psychological, aesthetic and ethical, factors. These can be varied and experimented with in various visual models, such as scale models, performances, multimedia presentations, participator-activating exhibitions, and interactive computer programs.

3) Regardless of prior educational background, those responsible for developing environmental education stress the importance of the pupils' own activity on behalf of the environment in view of learning and the changing of attitudes. Studying, thinking and planning are not enough; pupils must also be guided in publicly expressing their views, research results, wishes and plans. The plans should be realized in one's own locality, school, neighbourhood or suburb. It goes without saying

that this requires skills necessary for clear and aesthetically pleasing visualization and other presentation. Boring reports, unaesthetic exhibitions, or purely written statements and similar efforts will hardly benefit the cause of the environment. However, an inventive exhibition concept, a good slide programme, a fast-paced video, or an arresting performance can be of use. They will also raise the interest of local media, and the young people involved can feel they have an influence on things. In a more tangible sense, they are also exerting an influence through practical work to improve the environment. The quality of one's own immediate environment is the first issue to be reviewed.

4) A change in lifestyle is the shaping of something new. If an ecological lifestyle is seen only as restriction and austerity, it will only be accepted as a last resort. Arts subjects can develop a positive image for a way of life that conserves nature. This implies a great deal of inventiveness, joy, dignity, and a new responsible consumer attitude. The creative recycling of materials, the aesthetic of the simple and natural, interesting observations and significant experiences from what appear to be everyday things, and the aesthetic and ethical improvement of one's own practices and immediate environment are all actions that find a natural place within art education. In simplified terms, this implies a stress on quality instead of quantity and the adoption of an ethical aesthetic.

5) In Finland's comprehensive and senior secondary schools environmental education is mainly carried out through the collaboration of different subjects and in special teaching projects. Special art happenings can be seen as an excellent means in these projects; the collection and processing of information and activities in other subjects thus serve as a background in creating a memorable happening. In this way it is also possible to develop the mythical, metaphorical and deep-level psychological levels of man's relationship with nature into a constructive resource, in which factual information achieves deeper meanings.

The above five aspects of taught art as environmental education also underline the special skills and significance of the art teacher. I will now go on to those five perspectives in greater detail by including a methodological discussion and a number of practical examples. This will necessarily exclude other possible ways of delineating the subject, i.e. solutions structuring the content of teaching into areas such as the natural environment, the built environment, and the artifactual environment, or environmental education geared to certain age-groups or school classes. These traditional models of thinking and structuring suffer from a typical and rightly criticized fragmentariness. In environmental education, if anywhere, a holistic understanding and resulting action is sensible and inspiring. Each choice by an individual is also an ecological choice. Of course, the teacher must see his or her work in the perspective of age-groups and set tasks, but without an overall ecological perspective that is continually borne in mind and developed, our thinking and actions remain randomness and without coherence, thus leading to haphazardness and fragmentation.

1. Personal experience as a basis for growth. The cycle of experiential learning in environmental education

The idea of a cyclical or spiral learning process is a familiar one, but it has often been approached with unnecessary superficiality, and there has been little research in Finland on the various stages of this model, and the versatile possibilities for applying and deepening it. The model of experiential learning is an especial natural one, resembling the cycles of nature itself. Man with his experiences stands in the Center, but not as an all-knowing or dominating factor trying to assert control. This model is a flexible view learning open to suggestions. Described in the following is the cycle of experiential learning, here briefly applied to a project in aesthetic environmental education. I use an imaginary example, trusting that the principle of experiential learning is best expressed in this way.

The aim of my imaginary project is for my pupils to become interested in the near environment of their school, to learn to 'read' it, to identify with it, and to want to do something for its benefit. I also want this close-range action to produce concepts that will help the students to understand better the values and interrelationships of environmental thinking and to be able to draw conclusions concerning their own activities. Everything begins with personal experience, or making that experience vivid. I ask the students to close their eyes, and give them a few instructions on how to relax. Then I ask them to recall how they came to school that morning. Where did they come from, and how? What thoughts or mental images were related to coming to school? Were they hurried or calm? What was the weather like? Was it already light outside? What did the school look like? Did they see anyone else on the way? What did it feel like to come to school today? Next I ask them to imagine how coming to school would now change into something especially pleasant, and that the school would appear particularly attractive, and that the whole environment would appear pleasing. I ask to imagine and see what that would look like. How does it feel to approach the school? I ask them to linger for a while in this pleasant mental image.

After this stage, the students, now in groups of three, discuss for a moment the experiences of the exercise, sharing their experiences. A summary could, for example, be a description of how the school building was experienced; what it looked like; how one felt; and what each individual paid attention to. The imagined optimum alternatives contained both common and varied features and experiences. Although the physical environment remains the same, it is possible to experience things in many ways. Some features and desires reoccurred among many students, and the imagined experiences could be quite realistic or highly fantasized. Changing the real situation in one way or another would require planning, with different consequences.

Next we go out. I have marked on a map of the school area and its surroundings as many points as there are students in the class. The points are

all numbered. A lottery is held and each student is given his or her own point. All have pads and pencils. I then check that each student finds his or her own point. The set task is to draw a view of the school building as it appears from the given point, as well everything else between the point and the school. The given time is 20 minutes, and the drawing is a sketch. The drawings are hung in the classroom.

We can see that they contain a large number of accurate observations, and that the whole is a systematic one owing to the way the task was organized. How else can we make observations of the surroundings of the school, and make a more thorough study of it? What is always visible and what is not - yet still essential? We form a brain trust thinking up good questions: Where is the best and most suitable place for each student in the near surroundings, the one where he or she is most comfortable? Where are the places one wouldn't spend a minute? What goes into the school building daily, and what goes out (people, food, waste, energy, emissions, warmth, sounds, knowledge, thoughts, social relations, good and bad feelings...). How does this exchange of things appear in the surroundings? How could it be visualized? What ecological, aesthetic and ethical links do all these things have? How did the architect originally plan the school? What does the building and its surroundings contain that is typical of its date of construction? How have values and aesthetic views changed since then? What regulations exist, and who or what lays them down? What values and aims were lacking in the design, although they should have been there? The students think and acquire information. The project involves a couple of other teachers inasmuch as they also devote one class in their subject to the questions raised in this art class. A 'mind-map' has gradually formed on the walls of the art class, with a network of images and text and interrelationships. It represents the stage of experiential learning that can also be called conceptualisation, and it also entails a theoretical approach. Things find broader connections.

The next stage is action for the good of the environment. What can we do in a concrete manner that would be better in ecological,

aesthetic, social, practical, ethical and other terms? How should things be organized so that we could all feel and learn better? What obstacles, barriers and conflicts of values are faced by attempts at change? We improvise drawings and paintings containing suggestions for change. The pictures are informal images of ideas and feelings, and not finished plans. These are put on show in the hallway outside the art class. We invite the principal, other teachers, the local school board manager, the municipal architect, and the gardener to take a look. We listen to them, and ask for advice.

This is followed by a stage in which we prepare a realistic plan of action concerning a single realizable detail. The project is called 'Bush planting with a ceremony'. What is required now is information on planting and money, and the planning of the actual event, but the project is realized a few weeks later. The environment has now improved to a slight degree, and much has been learned along the way, judging from what the students say to a local reporter at the planting ceremony and how they write the 'history' of the event in their Finnish class. An excellent situation is also viewing a video made by ourselves of the ceremony, and sharing our experiences of it. A new cycle of experiential learning is thus launched. Now, the theme is ceremonial and ritual art in Finland and elsewhere, and in the content of this teaching ecological aspects are taken into consideration in a different way. The school environment changes slowly, but changes nevertheless.

In the above experiential learning project, the students' personal experiences were continually considered. They are an essential part of the cycle of experiential learning, but deserve a completely separate discussion. It often appears that these terms are repeated as a self-evident, 'in-built' and omnipresent characteristic without any real discussion on what experiences are related to the actual art teaching situation in question, how they emerge, their ultimate role in artistic activity, on when they are genuinely present, or what methods or situations could be developed for promoting them consciously. My own view is that experientiality can also be

neglected in art education, and the teaching attempt can be regulated by aims, contents and methodologies far from the student himself, instead of by the students' own experiences.

We have on the one hand the artistic process, which is prompted by some experience. This genuine personal experience is borne by the individual and it finds various artistic expressions. On the other hand, the process may proceed so that the beginning can, in fact, be very 'mild' or open and searching, but the actual work, that which begins to happen, begins to produce experiences of value. In other words, it appeals to the senses, aesthetic views and feelings, and generates personal mental images. At best, both levels of experience are present.

Environmental education, if based strictly on the sciences, completely lays aside subjectivity, experiences and feelings. According to still currently held views, scientific knowledge is objective and operates on an impersonal level separate from feelings and values. No one can deny the importance of investigating objective natural laws or research that measures, explains and predicts natural phenomena. However, many see a mistake in having a natural-scientific approach as the dominating one in environmental education. Changes in general environmental thinking in recent years has brought about an appreciation of the world of experience and also cultural perspectives among many others than art educators alone. The early experiences of nature in childhood, the ability as an adult to enjoy these experiences, comprehending the value of the richness and diversity of nature, and the need and energy to act on behalf of nature and a better environment are all interdependent. Western youth and adults have mostly become alienated from a close contact with nature, and cannot find the way to that relationship except in some highly specialized and limited way (a week at the summer cottage, a skiing slope, sunsets...). There is a yearning for communion with nature, but it may exist or become conscious only in a romantic or abstract sense. What then would be the strategies of art education in this connection? A few examples are given in the following:

- the art educator's development towards becoming an environmental educator entails – and already has entailed for many – that he or she remembers to revive again and again his or her own relationship with nature, by listening to one's inner nature. By seeing, accepting and remembering one's own essence as a natural creature. By making one's way into the forest and onto the shore not only in summer. By being naively open and inquisitive, if possible. By giving oneself time to be, to sense, to feel, and also to accept unpleasant sensations. Nature is more than only tame and comfortable; its very essence is the untamed. Comprehending the deeper levels and connections of nature is aided by techniques such as meditation, deep respiration, body therapy, tai-chi etc. Exercises in one of these techniques is here presented as part of the advance training of teachers.
- Secondly, the teacher outlines his or her own personal experience of the environment again and again in different artistic ways so that this experience may remain vivid and active. The teacher may in this sense be an earth-artist, the creator and perpetrator of a new life style, a nature poet, possibly the visualizer of the messages and aims of a local ecological group; or he or she may just realize in a deep sense that everyday events from washing dishes to drinking tea and preparing a compost can be made into a ritual art and into something rewarding and cheap to practise. In my view, recycling and the conservation of energy are an essential part of the new aesthetic.
- When the teacher's own study of nature and his or her personal reality in this sense are in order, or at least have found a good start, he or she is more prepared to approach others. The school day is often noisy, busy and programmed from outside, and hardly lends support to pleasures of the senses or expression and understanding arising from oneself. The task of the art educator is to help the pupils and students to stop and sense and

experience their own physical presence and how the environment appears. Natural and unforced ways to do this is to give relaxation instructions; to carry out exercises related to the senses, memory and mental images to alter the aesthetic of the art space itself; to use movement and sounds to create moods; to create a positive and secure atmosphere that supports the act of listening to oneself and to the surroundings. All these are part of the professional skills of the art educator. Fortunately, they can be developed through official and unofficial advanced training.

- The relationships of art and nature are varied and fascinating. The many forms of environmental art, the semantics of objects, gardening, and ecologically planned milieus all give the teacher studying them experiences, ideas, knowledge and understanding that can be applied in his or her own teaching and other activities. The art educator's frame of reference and material in planning environmental projects thus consists of environmental art, design, and construction - not so much as specific areas of knowledge but as an experienced and lived-in environment, and as a continually renewing 'reading' of the environment with its element of reflection. It gives the teacher ideas on what he or she will undertake with the students and how to go about it. A project may be setting up a tent village in the schoolyard, a winter garden, a video presenting someone engaged in an ecological lifestyle, giving the school hallway a new look, or even a relatively traditional painting or drawing project. The essential points here are the meanings and experiential aims given to the project and the concepts, meanings and values generated in connection with it.

2. Generating mental images, visions and models

There is a considerable difference between living in an environment without being conscious of it - as a kind of manipulated object steered by

different factors - and having one's roots in a biological and cultural area and also having an idea of where one comes from, where one is at present, and where one may be going. There is also a great difference between seeing the future as only an ominous and vaguely defined threat or void, and seeing it as something one can outline, imagine and influence. These are issues of planning one's own activities on a highly practical level. What kind of object or plan am I making? For what purposes and for what kind of environment? From what materials, and in what way? How does it find its place in the systemic context of nature and culture? What shall I make it look like? On the other hand, this play of creative imagination also applies to a philosophical view or outline touching upon no less than the purpose of life, and it has a deeply ethical nature in its questioning of the order of one's values. In addition, a visual, artistic outlining of issues naturally plays an important role.

In my opinion, educators have not paid enough attention to the pessimistic idea of the future common among many young people, and to the understanding of life, or worldview that follows from it. It should be possible to discuss these fears, feelings of pessimism and hopelessness with adults in a spirit of sufficient confidentiality and security so that the previously unexpressed mental images and sources of anxiety would lose at least some of their debilitating power. One of the main meanings of art through the ages has been its ability to reach the deeper levels of the psyche and to act as a channel and possibility for giving shape to feelings that are often unconscious. This means that also the 'dark' side of the mind, once having achieved for, can be integrated into the totality of the psyche, and can thus be made relative. Without becoming an art therapist, for which the art teacher has no training, he or she can nevertheless act therapeutically, assuming a willingness to give pupils and students art exercises in which they can break down their possible fears, life-negating visions and hopelessness in a sufficiently secure context. It is a therapeutic practice to receive these pictures with respect for the students' views and their

world of mental images, while at the same time trying to pass on a positive attitude towards life and hope for the future. Without doubt, the success of this requires that the teacher undertakes a sufficiently deep investigation of his or her own relationship with the crisis of the environment and its threatening scenarios. The teacher cannot gain a credibility in this therapeutic venture if he or she cannot, dares not, or will not, look at those images, experience the necessary personal feelings and treat them to make them a source of energy replacing blindness to the environment, hopelessness or a feeling of powerlessness. This deep-level process is demanding for the educator, and no one can be lead into it from the outside. Only the person concerned can choose this path himself. As a representative of the arts, he or she is at any rate also a representative of the deeper level of the psyche more than others in the school environment - and whether he or she wants to or not. We also know that man's interior and exterior environments are reflecting each other and are interdependent. It is our own choice at which level, exterior or interior, we prefer to work more. This is also related to one's personal style of teaching, regardless of the official curriculum plans.

The focusing of energies in the creative imagining, production of something to come (such as an object or a way of life), or in activities for certain results is essentially something holistic, intuitive and artistic. It cannot function well if we try to proceed in only a linear way, for so many things must be considered simultaneously, within each other, in changing chronological order, and so on. Clarifying visions through drawings and paintings and possibly three-dimensionally with variations of movement, space and time is of course artistic activity and at same time highly complex non-linear thinking. Accordingly, the varied and nuanced mind maps made in the art class, i.e. sketches of connections between things or ideas or variable scale models of the same (e.g. designs for the schoolyard), all apply visual thinking in working for a better environment. The time perspective on the environment is also an essential feature. It is worked upon when, for example,

pictorial comparisons or multivisions are made in order to seek an emotional and a factual relationship with the past, present and future environment. Possible themes in this connection are, for example, 'An Area Past and Present' or 'Traces and Hopes of Man', or we may make a video in which the image tells of the past and the text is of the present, or vice versa. The future may be shown in three alternative images, each with specially selected music. We may even have a chance to experiment with an interactive computer program on the environment; a possible theme could be 'The Future in Our Hands'.

3. Young people influencing the environment

Large-scale environmental projects carried out in certain Finnish schools show, among other results, how schoolchildren can locally play an important role in influencing the environment, and how they can learn the basics of participation and activity in these matters. A good example is the Nordic environmental education project 'Man and Natural Resources' organized in 1992-1993. The Finnish participants included the Kesy school in Jyväskylä and the Salpakkangas school in Mikkeli. One of the themes was to focus on a local environmental conflict and to treat the clashes of values that emerged. There was also a desire to stress ethical and aesthetic considerations. The students of the Kesy school made a study of the local planning and use of lake-shore areas in Jyväskylä, while the Mikkeli schoolchildren focused on the advantages and disadvantages of a power plant using peat. The Kesy project included a cabaret, a high-quality art exhibition and a special video programme in which the viewers were made aware of the value of shore environments and their damages in a fresh, emotional manner. The children of the Salpakkangas school made a scale model of the local peat-burning power plant and its surroundings, and interviewed a large number of local people. The art education aspects were mostly emphasized in those parts of the project, in which the students made excursions to the bleak bog

areas providing peat for the plant, and also to bogs still in their beautiful, natural state, where they sat for long in peace and then wrote their texts following the principle of processual writing. The contrasts of these bog areas clearly inspired the students, and the slides and the video programme produced in Mikkeli carries a special measure of power and expressiveness. Both projects, at Kesy and Salpakangas, were given a great deal of publicity, in local and regional media. The work and activities of the students featured prominently, and they had good cause to regard themselves as influential with respect to the environment.

Activity by pupils and students on behalf of the environment may even in ordinary art teaching find many significant forms. Improving the appearance of a school or its yard with wall paintings is one of the most common types of projects. It may even be possible to participate in the volunteer repairs and refurbishing of an old wooden building in connection with art classes. This would present to the students the story of the old house and its structures and many details. It could also demonstrate the use of red ochre paint. Suitable wallpaper could be made with templates or stamps.

4. The new aesthetic of the everyday

It is difficult to generate participation in changes promoting an ethically improved way of life and consumption if people primarily see these as restrictions, austerity, discomfort or outright bleakness. Art education can provide an exciting study of the lifespan of objects, ecological design and inventive recycling. Local recycling centres would hardly object to pupils and students making installations or still-lifes or objects and materials left for recycling. It is also possible to go to dumps to gather other recyclable objects for these works, or from the home. A project such as this could show that a different placing and composition of objects and their inventive parallels give them a new appearance and generate new interest in them. Here, humour and even the symbolic meanings of objects could emerge.

A preference for natural materials is often a matter of course in art education. For example, clay is used instead of plastic materials in artwork, which is in many respects more preferable and generally a self-evident choice. Clay is cheaper and can easily be returned into the natural cycle; it is a down-to-earth material and it can be treated further with simple methods. Though requiring some work, it is often worth one's while to go and collect clay with pupils and students from a ditch and to go through the process of making natural clay into good modelling clay. When this clay is then used for making objects or sculptures, and possibly even fired in the schoolyard, there is participation in a total process. Experiencing this and comparing it to traditional folk-art methods and developed ceramic technology offers a perspective and an understanding of material culture. All in all an important aspect possibly introduced by the new ecologically oriented art education is an increasing awareness of the connections between materials, natural processes, production and cultures.

Without doubt, we must be increasingly aware of the hazards of the paints and other materials that we use. For example, an ignorant or careless attitude towards chemicals used in developing photographs is now a thing of the past.

The specific practices of the school, e.g. regarding recycling, waste treatment and energy consumption, are naturally an essential part of environmental education offered to pupils and students. The example of adults in this and other choices affecting the environment (e.g. the unnecessary use of cars) is probably more important than what grown-ups say about them. Young people have not yet made themselves as guilty of damaging the environment as adults, and we should take a good look at ourselves. - We can see the whole man-made environment as one giant work of environmental art, as large ever-changing body of concentric systems and structures. Qualitative change in some parts of this has an effect that may be transferred and enlarged in unexpected ways. This environmental work is in turn a part of the broader system of nature. I recall my surprise long ago when I asked a group of teenagers for a

visual outline of their world in which they were in the Centre and the systems and network affecting them were closer and further away. No one questioned the sense of the task, and all worked enthusiastically. I had imagined beforehand that the task may have been too 'abstract'.

Learning to be an enlightened consumer also entails preparing oneself against the allure and implicit effects of advertising. As an expert in visual communication the art educator has much to do in this area. It goes without saying that a humourless, moralizing attitude is a poor strategy, while the analysis, parodies, imitation and alteration of the visual and aural means of advertising is fun and makes the individual at least to some degree aware and immune. A versatile command of video techniques is also an asset for art teachers. Here, a local audiovisual Centre may provide help if the school's own equipment is insufficient. The creative manipulation of taped commercials produces insights and joy to both the teacher and the students.

I would also regard as a highly ecological art project a situation in which pupils and students first draw up a (secret) list of different things and tasks which they like, cost nothing and hardly deplete any natural resources. Then they choose one of these and visualize it in some manner, for example three-dimensionally. One is permitted to depict only that which one really appreciates. Visualization may only be a colour, paralleled colours or a simple shape, as long as it represents the thing in question to the maker. Furthermore the visualization is executed as well and as carefully as possible, since it represents something valuable to oneself.

Attitudes and ethical issues can also be discussed through the medium of comic strips. A very good example is the comic-book "Captain Eco and the Fate of the Earth" (Jonathon Porn and Ellis Nadler 1992), which has been used with good results in the lower school and in the seventh grade to raise discussion and one's own visual standpoints.

5. An environmental art event and its integration

In 1992 Finland's Independence Day (6 December) was celebrated at the Kaitaa school in Espoo, near Helsinki, with an environmental theme in which the old oaks of the schoolyard had a leading role. Three senior-secondary boys were painted with oak-leaf motifs. These three 'oaks' talked of the history of Iivisniemi, the school's locality, in addition to which visual comparisons, brief dramatized scenes and an impressive dance of black and white butterflies were shown. The changes in the environment and the darkening of the butterflies find scientific explanations. The drama, visualizations and the dance in turn gave this an artistic and telling form. The event was a good example of information serving as suggestions for an artistic whole. This model can be highly recommended in the integrated projects of environmental education in schools. So far, it has been more common to give first place to scientific knowledge which is served as a 'package', and the arts subjects have been a decoration or a lighter element in the whole. But the above example shows that the whole question can be seen in a different light and a more coherent result can be achieved if the aim of a good artistic production is set.

Senior comprehensive and senior secondary schools contain expertise in a great number of fields, which is of paramount importance in view of the necessarily multi-disciplinary and multi-artistic nature of environmental education. Arts subjects specifically provide an opportunity to put varied factual subject-matter into a coherent and inspiring form.

We know that there are many obstacles to integration and project-oriented teaching in schools. These should be consciously dismantled in both administration and everyday work. For example, new and creative efforts jointly by teachers of biology, geography and art are significant and rewarding for all concerned. Collaboration for example with history or civics teachers is also worthwhile. One possibility could be a memorable feast organized together with a home-economics teacher, in which a

depression-period cookbook could be followed in making healthy and ecologically acceptable dishes. In such a project, the art class could be responsible for the appealing and perhaps surprising presentation of the food, and the music for the occasion, preferably live, could be chosen with care.

In my view, art teachers rely to an unnecessarily small degree on outside experts in their own environmental education work. The

local building board, the municipal architect, the environmental protection officer, the consumer counsellor and conservationist groups, and many others, are usually quite pleased to have their expertise put to use. However, the task of the art educator is to creatively apply information from experts in the forms of artistic teaching and learning events that follow the principle of sustainable development. **CS**