URBAN ENVIRONMENTAL EDUCATION: PRINCIPLES IN ACTION

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ABSTRACT

While the value of environmental education in a natural environment is acknowledged, a case is made for urban environmental education. Principles underlying a programme derived largely from the British Urban Studies movement, in particular, the Art and the Built Environment project (Adams and Ward 1982), are presented as a contribution to urban environmental education in South Africa.

INTRODUCTION

The practice in environmental education of taking children from an urban environment to a natural one is valuable and important. However, there are many reasons why an equivalent focus on the urban environment should be developed. First, a focus only on the natural environment outside of urban areas could impart the value laden message that there is little worth studying in the city. But there is an even more important issue than this at stake.

To rely on an experience only of our natural environment in environmental education is to ignore the rapid rate of urbanization that is taking place in South Africa. With 47% of our population urbanized in 1980 and projected figures of 58% in 2000 and 85% in 2040 (Wilson and Ramphele 1989), it will be impossible to give all of the children represented by such rates of growth a wilderness experience. Focusing mainly on the natural environment also ignores the fact that environmental awareness can be developed in any environmental context (Clacherty 1988). Awareness is a characteristic that, although independent of a particular context, is expressed only in context. Once established, it should generalize to all aspects of the environment.

It follows then, that environmental education can and should take place in an urban context as well as in the natural environment. It should, *inter alia*, aim at making the urban environment not only survivable, but capable of sustaining an acceptable quality of life for most, if not all, urban dwellers. Children need to be educated to understand the city and how it works:

> *they must be able to use the city, for no city is governable if it does not grow citizens who feel it is theirs* (Goodman 1961, cited in Ward 1978, p. 177).

The aim of an urban environmental education programme must, therefore, be to promote an awareness of urban processes and issues and a willingness and ability in people to take appropriate action:

> *The most important thing is (the children's) realization that they can actively play a part in shaping their surroundings, that what they say about where and how they live will be listened to and that the key to their future lies in their own awareness* (Dromgoole 1973, p. 8).

The achievement of such ideals is a great challenge. Educators thus need to employ appropriate methods and strategies that rest on a substantive theoretical base. In particular, it should be noted that:

> *The child like the adult learns the art and the technique of citizenship, not through admonitions or through lectures on civics, but from involvement in real issues* (Storm 1971, p. 184).

The sentiments expressed by the above quotations informed the design of a programme run at an extra-curricular centre for gifted children in Johannesburg. The programme was an eight week course consisting of a two hour lesson each week. The programme catered for standard 6 and 7 pupils, but at different times in the year.

This situation is certainly not reflective of the normal South African school, nor were the children in their own local environment. It is felt, however, that the principles, as well as many of the approaches used, are applicable in the formal school context, with children of varying abilities, and in the many different urban environments that exist in South Africa.

For example, while these principles have not been tested in a black urban area, which is, of course, far removed from the environments described below, we are planning to engage in similar work in Alexandra, Johannesburg. In considering this possibility we have come to believe that very little of the basic structure or principles of the programme described below would have to change. We believe further, that the programme would generate a powerful response in terms of critical awareness of the urban environment and would have more obvious results in terms of participant action in the local environment.

We thus offer the principles and approaches used in the programme as a stimulus for others to engage in similar work in this country.

As an aside it should be noted that in this article we knowingly focus on the built component of the urban environment. We do not, however, wish to create the impression that there is an either/or dichotomy between built and natural, and acknowledge the many diverse natural environmental education resources in the urban setting.

The Environmental Context

The centre where the programme was offered is located in Parktown, an area of rapid urban change. Parktown was originally a residential area with large mansions built by the Randlords of Johannesburg between about 1897 and 1920. A number of the old houses still stand and many are national monuments. In recent years the area has been developed as an elite office park in response to the northward expansion of the commercial zone of Johannesburg, and a variety of interesting and unusual modern architectural examples exist.

A short bus ride away from Parktown is Pageview. This area was initially the centre of trade and a residential area for a portion of the Indian population in Johannesburg. In 1962 it was proclaimed a white area and the residents were systematically moved to Lenasia, about 40 km away, and their businesses to the Oriental Plaza shopping complex, not far from Pageview. The evidence available in the landscape is accessible to interpretation and tells a vivid story.

Parktown and Pageview were chosen for study in the programme both because they were local and because they fitted very clearly Leeson's description:

> *The environment of an urban society provides a visual record of changing values which in itself influences future change* (1985, p.7).

Aims of the Programme

The broad aims of the programme have been discussed above. More specifically, however, an attempt was made to give children the ability:

a) to see the value issues inherent in their environment.
b) to assess how value issues have affected the quality of the urban environment.
c) to articulate their ideas. And, ultimately,
d) to participate in creating an urban environment that provides quality of life for all its inhabitants.

PRINCIPLES OF THE PROGRAMME

The following section presents the main principles upon which the programme was based as well as examples of how these principles influenced practice. The principles are summed up best by saying that the programme sought to:

> *present students with a range of possibilities to consider, and to encourage them to make up their own minds on the basis of their own experience. This involve(d) personal research, observations, comparisons and conclusions which communicate(d) a considered, personal, critical response* (Adams and Ward 1982, p. 29).

Aspects of this general statement are elaborated upon below.

Observation

The starting point of any environmental education programme is that the teacher

> *must find ways of extending, deepening or changing children's experience of the environment, and to work towards heightened sensitivity, enlarging sensory perception and thus developing a greater awareness of the environment (ibid*, p. 43).

This was the aim of many of the exercises in the programme and it was pursued in various ways. Observation was encouraged through the use of sketches. Pupils were frequently required to sketch, for example, skylines of Parktown and details of old houses, such as door handles, chimneys and cornices. Sketching was selected as a way of focusing observation, as it is a way of interrupting the routine of life, of encouraging a different sort of looking, and, as such, of allowing the object being observed and drawn to take on values:

> *If you draw something you have to look very hard at it. It is the making of judgements that the long term process of drawing implies which seems to me to be of great value in increasing your consciousness of the environment. Drawing procures attention; it is a contemplative device.* (Jeffrey, undated, cited in Adams and Ward 1982, p. 85).

However, drawing alone will not necessarily achieve the required degree of focus and awareness. Hence a particular approach to drawing, as used in the Art and the Built Environment project (Adams and Ward 1982), was adopted. This involves the use of annotated sketches. Drawings record a personal response but do not necessarily elicit critical appraisal. The practice of annotating drawings encourages the observer to make value judgements; it makes explicit the observer's intuitional response.

In the programme, pupils made annotated sketches of a number of objects. For example, they observed Stone House, a national monument. After a brief discussion of various aesthetic components in order to provide a conceptual framework, pupils were invited to select any aspect of what was in view and sketch it. Thereafter, they were asked to label their drawings with words that described how they felt about it. That is, they were asked to assess the drawing in terms of their own response to it.

The drawings showed detail. The act of drawing also prompted discussion: "I have never noticed that before", "That is a tall tree", "What is that building used for?" Not only was discussion stimulated, but pupils executed the task of sketching with intense concentration. Once the sketches were done, annotation of the sketches was readily undertaken. With the opportunity provided, pupils were very willing to pass evaluative judgement. They showed an openness and strong feelings about

aesthetics. They did not have the language of aesthetic criticism at this stage, but they could certainly articulate their more subjective ideas about the objects.

This focus on personal feelings to objects through annotated sketches leads to the second principle on which the programme was based.

Affect

Commonly, environmental education in the formal context deals with measurable or quantifiable data without placing a similar emphasis on a personal, emotional response (Adams and Ward 1982). However the importance of the latter in environmental education has been widely demonstrated (Aho 1984, Ballantyne and Oelofse 1989, Clacherty 1988, Horwood 1989 and Knapp 1989), as the following statement suggests:

> *If a project is to be of any deep or permanent value, it must have an energizing core. It must be a study of importance to the whole individual, and that means something more than a factual survey or a mental exercise. It must involve the deeper centres of being, from which our feelings and emotions draw their strength* (Dooler, undated, cited in Adams and Ward 1982, p. 27).

The annotated sketches mentioned above were one method used to elicit an affective response, but many other exercises or experiences were also used for this purpose. Perhaps the most vivid example is found in the programme's introduction to Pageview.

The children were taken to Pageview and with no further discussion or provision of information, were asked to sit alone in the open area left by the demolition of houses. The landscape is immensely evocative. A well maintained, occupied house stands alone in an empty lot; the exposed remains of derelict houses begin to crumble; "Save Pageview" stickers are evident on the doors of an empty house; new, low-cost housing developments grow up in the midst of what was obviously a compact community. This is clear evidence of a major change that has taken place. Destruction and disruption are written across the face of the area.

Having sat alone and experienced the area personally, without outside information or interpretation, the children were asked to make an affective response in the form of free-verse, the emphasis being, What do *you* feel about this place?" The exercise then moved on to finding out the facts about the area; but, having experienced the area personally and affectively, and having begun to ask questions about it in trying to interpret the evidence, pupils were able to engage with the material in a serious and meaningful way. Perhaps the greatest success of the first part of the exercise was seen, not in the quality of poetry it produced, but in the way it created a need to know. Pupils *wanted* to know about Pageview. There was also a commitment to the place, as strong feelings had been evoked.

Critical Skills

Having emphasised the affective aspects of experience, it must also be made clear that the programme would not have achieved its aims had it not also required pupils to respond to the environment at a cognitive level. This requires the development of discriminatory and critical skills so that quality can be appraised and an objective base be added to the subjective involvement with the environment. This principle:

> *asks you to reflect on your thoughts and feelings, to question experiences, assumptions and meanings, and to communicate your thoughts and conclusions in an appropriate way. It asks you to make considered judgements* (Adams and Ward 1982, p. 29).

The first step towards achieving this was to provide pupils with a means of expressing their initial, subjective responses in more objective terms. The effective use of vocabulary is crucial here; there are apparently many people who do not participate in environmental debate simply because they do not have the vocabulary to articulate their ideas or experiences.

At the beginning of the programme pupils were able to make judgements such as, "I like this building more than that one", but when asked to explain why or justify this choice they found it difficult. The programme set out to give children the ability to read the visual language of buildings and places and to use the visual and verbal language of criticism. Providing a vocabulary was a first step towards this aim.

Jeff Bishop's building appraisal scheme (in Adams and Ward 1982, p. 61-2) provided a structure that helped children to read the language of buildings and places and to articulate their responses. Bishop's model is based on psychological (Piaget 1929) and architectural (Lynch 1960) theory. It deals with four concepts: context, routes, interfacing and grouping.

In the first, Bishop's scheme encourages the pupil to look at the **context** of a building and answer the questions, "What is the pattern of this area?"; "What is the scale of development?"; "What is the form of the buildings?" and "What kind of site is it?" **Routes** to and around a building are examined with a focus on things such as the meeting places of people and alternative routes used by people. **Interfacing** relates to issues such as the relationship between the interior and exterior of a building, for example, "Does the exterior of the building explain its interior function (or does it hide it?)" Interfacing also involves questions such as "What clues define public and private space?" **Grouping** deals with materials and construction methods and how the various parts of a building or groups of buildings relate to each other and to the local area.

These concepts were included in guided observation sheets and were applied to buildings of various styles and ages. The value of Bishop's appraisal scheme stems from its ability to encourage a structured and systematic

analysis of key aspects of town and local area planning; it makes complexities easily accessible for critical scrutiny. What are often subtle or implicit factors are exposed for closer attention.

Further attempts to develop a focused critical ability included drawing pupils' attention to building materials and construction methods. This was done in the programme by comparing two buildings: one in which stone, mortar, shingles, wooden window frames and doors were used, and another which was constructed mainly of concrete, glass and aluminium. Attention was drawn to the different construction methods. This was easy to do in Parktown as much building activity was evident and the pupils spent time watching construction at a building site. An additional component of this exercise was the simple use of aesthetic concepts such as shape and size, colour and light, texture, space and mass, line and direction. This was done in order to enhance the development of critical skills through the provision of specific knowledge or vocabulary.

Another useful device was the Building Impact Score Sheet devised by Keith Wheeler (in Adams and Ward 1982, p. 60. Appendix). It asks pupils to assess and score a range of factors on a scale from 0 (awful) to 10 (excellent). The factors it deals with are, for example, the impact of the building on the street; the size and scale of the building; the choice of materials, textures and colours; the standard of design of details; and the relationship of the building to its surroundings.

Clearly, the Building Impact Score Sheet uses a subjective approach to assessment. This is deliberate and is seen as a strength. In comparing three modern office buildings in Parktown it was seen as a starting point for further discussion. Pupils began to articulate preferences in design and discussed quality in terms of utility and aesthetics. For example, "That building wouldn't be nice to work in - it seems all closed in"; "The people we spoke to didn't like working in the building"; "I like the way the building reflects the trees"; "The building is too close to the road, it seems to fall on top of you and is theatening. The other building is set back and feels friendly"; "It is too regular, it doesn't have variety of shapes and textures like the second building does - it doesn't add to the quality of the area - it intrudes", are all examples of comments that emerged in discussion.

It thus appears that if pupils have the necessary vocabulary and a mechanism for expressing it they can make and verbalize considered critical judgements. The Score Sheet is a mechanism through which pupils are encouraged to formulate opinions and to bring critical awareness to bear on the quality of their environment. It is valuable not only in that it allows pupils to articulate their own opinions, but much more in that these opinions begin to be based on systematically applied criteria.

Interpretation of Evidence

Another principle on which the programme was based relates to the use of evidence. The built environment was seen as evidence of human activity. Where pupils needed further evidence, for example, in the history of Parktown or Pageview, this was provided through the medium of a package of materials which pupils processed, interpreted, and then used in order to understand the environment.

The Schools Council History Project (1984) and its approach influenced this method. This approach is a process of inquiry that aims to reconstruct the past from surviving evidence. The packages on Parktown consisted of maps and aerial photographs from the suburb's early stages until the present, photographic evidence of the changing uses of the area, diary evidence from early residents, and extracts from historical works. The Pageview evidence was in the form of transcripts of interviews with Pageview residents, eviction papers, a copy of relevant legislation, maps, newspaper reports and photographs. From these, pupils were able to reconstruct the stories of Parktown and Pageview.

The aim of this approach was to place the onus for learning on the pupils themselves. They were seen as interpreters rather than empty vessels to be filled with information. In order to achieve this the evidence was seen as problematic, reflective of human value issues, and pupils were encouraged to question its worth as evidence of reality. In this approach the importance of the pupil as source, as maker of meaning, rather than receiver, was emphasized.

Past, Present and Future

The above highlights the importance placed on the historical dimension in a study of the urban environment. An awareness of history gives depth and understanding to an interpretation of present issues, but more importantly, in the context of environmental education it shows that *people* made this place; therefore people can change it. Freire calls this historicity:

> *In illiterate cultures, the 'weight' of apparently limitless time hindered people from reaching that consciousness of temporality, and thereby achieving a sense of their historical nature. A cat has no historicity; his inability to emerge from time submerges him in a totally one-dimensional 'today' of which he has no consciousness. Men exist in time. They are inside. They are outside. They inherit. They incorporate. They modify. Men are not imprisoned within a permanent 'today', they emerge and become temporalized* (1976, p. 3).

What Freire is saying here is that a sense of history gives one the power to believe one can change one's future. For this reason the programme emphasized past, present and future. The historical dimension was introduced through the packages of evidence described earlier. The present was dealt with through observation of the area as it was at the time of the programme and

the future was dealt with in a simulation situation used as a conclusion for the programme.

In this concluding section of the programme the pupils adopted the roles of planners, councillors, the press, the building department, residents, property developers, architects and financiers in an exercise called the Land Development Game (Bishop and Russell 1982). They set about devising a planning strategy for Parktown. The game emphasised the fact that it is people who create an urban environment. The suggestions pupils made were astute and balanced - a sign of the effectiveness of the programme. For example, they showed awareness of the balance between development and conservation and also demonstrated an understanding of the fact that any planning process must seek to meet the different needs of the respective stakeholders.

Evidence of the value of this exercise can be seen in pupils' comments about it. For example: "You can't please everyone - it is difficult to plan for all interests" and "I can understand better why people make the decisions they do" illustrate an appreciation of the complexities of planning and of urban processes. There is also evidence of the development of empathy and of a growing awareness of conflicts of interests in the city: "I learned that people can't all be happy about a decision that the City Council takes".

The Local and Larger Context

The final major principle upon which the programme was based is the idea that the local must be related to the larger context. Students cannot have a critical understanding of their local environment without an understanding of the social and cultural order that shapes their lives. The local issues that formed the focus of the programme were constantly placed in the wider sociopolitical context. This introduces the notion of political literacy, as Huckle points out:

> *Desirable social change can only result from broad programmes of education which alert people to the common roots of inequality and environmental degradation and link environmental well-being to wider political agendas* (1983 p. 61).

This is further reason why Parktown and Pageview were chosen as study areas: they are able to give pupils a clear understanding of how wider political interests impinge on the urban landscape. Through this the pupils could begin to understand that the urban environment is a visual record of value issues. This was made obvious largely through the packages of evidence which focused on the history of the two areas. It was also dealt with in discussion that arose from pupils' questions; for example, it was impossible for them to understand Pageview without discussing the Group Areas Act.

CONCLUSION

We need to develop strategies for urban environmental education in South Africa. The principles described above, while they were used to inform a particular programme, are offered as a starting point for others wishing to devise such strategies. The approach described here will, we believe, make it possible for people to understand their lived environments better and to begin to influence decisions that are taken on their behalf. In this regard, we should point out that we have presented a specific selection of principles in this article. There are others, and we would be happy to discuss them in greater detail with people who might be interested in developing similar initiatives. The opportunity of further field-testing in diverse urban settings would be welcomed.

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BUILDING IMPACT SCORE SHEET

Name of streetworker .....
Group .....
Date .....

Assess each building against each criteria and score from 0 (awful) to 10 (excellent)	Name of building 1	2	3	4	5	6	7	8	9	10

Building location	
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

Criteria										
Impact of building on the street										
Size and scale										
Relationship of building to surroundings										
Choice of materials, textures, colours used										
Standard of design of details										
Value of external space made by building										
Your possible enjoyment of living or working here										
Satisfactory use of possibilities of site										
General appearance of building as a whole										
How well is it standing up to the effects of weather										
Totals										

Total score

APPENDIX

The above assessment sheet was extracted from *Art in the Built Environment* (Adams and Ward 1982, p. 60). Its use is not restricted by copyright.