

# ENVIRONMENTAL EDUCATION COURSES AT THE UNIVERSITY OF BOPHUTHATSWANA

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The University of Bophuthatswana offers courses in environmental education at both the undergraduate and post-graduate level. The background to these courses, their aims and their contents are described. Evaluation of the courses and their potential value is commented upon briefly.

## BACKGROUND

The University of Bophuthatswana (Unibo) was established in 1980 as an innovative institution with the prime charges of achieving academic excellence and serving the wider community of Bophuthatswana. Amongst the innovative aspects was the division of the university into professional 'schools' rather than traditional faculties. Each School (Education, Law, Administration, Agriculture and Social Sciences) offered degrees and diplomas which prepared students for immediate entry into professional life upon graduation.

The School of Education for example, which enrolls approximately half of the students in the university, offers Arts, Science and Fine Art degrees integrated with professional preparation for affective teaching. Accordingly the first degrees for which students may enrol are B.A. (Ed), B.Sc. (Ed) and B.A.F.A. (Ed), each taken over four years. In the B.A. (Ed) and B.Sc. (Ed), which account for all but a handful of students, three majors are taken - two content subjects (e.g. Maths and English) plus Professional Studies which, as the name suggests, is the professional preparation of the student teacher. *It is within the framework of Professional Studies that Environmental Education (EE) is taught as a cross-curricula and interdisciplinary approach to teaching.* At the post-graduate level the degree structure is similar to that offered in any other Southern African university.

Additionally *all* undergraduate students at Unibo have to include three compulsory ancillary subjects in their degree viz. Special English, Basic Maths and Development Studies. The latter might be briefly described as an 'applied citizen awareness' course. From 1981 to 1986 short courses in 'environmental education' were given within Development Studies - a situation currently under review.

Since January 1986, students within the School of Education have been able to choose electives in EE at both undergraduate and post-graduate level. The decision by the university to offer these courses evolved over a number of years, starting with the Teacher Education Board's consideration of environmental education as an integral aspect of all teacher education, and supported by the identification of priorities in environmental education for Bophuthatswana as a whole. The processes whereby this took place have been discussed elsewhere (Irwin, 1987) but it may be repeated here that, given the limited resources of Bophuthatswana, teacher education in environmental education has been widely viewed as the first priority if a 'national sense of environmental awareness' is to be achieved (NPWMBB, 1985). In any modern society affective teacher education is the major way of educating (as opposed to merely informing) the population at large.

## THE COURSES

The EE courses offered at Unibo are at the fourth (final) year undergraduate level and at the post-graduate B.Ed. level. At the undergraduate level the course has been offered as a full one-semester (half

a year) option in each semester (i.e. twice a year) alongside other options such as 'School Management' and 'Counselling and Guidance'. Students, both full-time and part-time, have thus had the opportunity of doing the course in either semester. The course has proved to be popular and over the first two years of its operation was successfully completed by more than 120 students or approximately 40% of those graduating. In the B.Ed. degree a full one year course in EE is offered as an option (alongside 'Education Planning', 'Counselling and Guidance' and others) in the second and final year of part-time study.

All B.Ed. students may also elect to do research in a field relating to environmental education for their major research project, which is an integral part of the degree and equivalent in credits to a full course. Examples of topics in which successful and original research has been completed are 'Attitudes towards firewood collection and tree destruction in semi-rural areas', 'Pregnancies in schoolgirls - a socio-environmental problem', 'Evaluation of the courses offered for Std. 3 and 4 children at Pilanesberg National Park' and several surveys on what pupils and students know and believe about environmental issues. The results of these and other research projects are fed back into the relevant organs of Bophuthatswana society such as the Department of Education and the National Parks Board and in this way also contribute towards the university's community obligations.

## The undergraduate course

The undergraduate course is primarily designed to prepare teachers to promote and teach environmental education *through all subjects in the schools*. Thus it has a strong practical emphasis and is both interdisciplinary and cross-disciplinary in approach. It should be emphasised too that in keeping with current international thinking, EE is not seen as a separate school subject in Bophuthatswana, but as an *approach* to teaching in all subjects. A typical EE course at Unibo includes students graduating in languages, the humanities and sciences. It has been a course in which, for example, physics and chemistry students have become involved in critiquing and writing poetry, Setswana students have become engrossed in the structure and symmetry of chemical formulae and history majors have produced work on the history of mathematical ideas and their environmental application. Thus, through the medium of EE students have been exposed to a much wider variety of experiences than in their other undergraduate courses.

The course itself may be outlined as follows:

- *An introduction to environmental education* which includes an analysis of the concept and its historical development, an examination of the current status of environmental education in Southern Africa and a look at the relationship of environmental education to the disciplines of Ecology, Psychology, Sociology and Didactics. Philosophically the course takes an international perspective, taking much of its inspiration from the work of Unesco, UNEP, IUCN and the World Wildlife Fund.
- *The foundations of environmental education.* A human-centred introduction to the basic principles of ecology with the emphasis on life support systems, and a study of the concepts of ethics, values and morals with reference to the total environment and personal behaviour.

- *Environmental education in the schools* which includes identification of teaching resources in the (especially local) environment, an analysis of teaching methods and models appropriate to environmental education, the collection and production of relevant teaching materials and aids, co-operation with environmental education agencies outside the school system (e.g. Lengau Conservation Clubs) and, most importantly, a critical analysis and appraisal of current school curricula and syllabuses in terms of their potential for promoting awareness of environmental issues.
- *Planning and evaluation.* The basic planning principles applicable to the development of environmental education in the school situation, and an introduction to the concept of evaluation and its practical application for environmental education programmes both within the schools and out of them; viz. those run by private organisations and conservation agencies.
- *The course conclusion* examines the relationship between the school, the community and environmental education and synthesises the opportunities and constraints governing the development of environmental education in Bophuthatswana.
- Also integral to the course are
  - *excursions and outings* to places such as the Gold Fields E.E. Centre at Pilanesberg National Park, a local dam and recreation centre (Lotlamoeng) and schools with environmental education programmes and facilities.
  - *talks and lectures* by members of the community such as the Lengau Conservation Clubs Organizer, ecologists, poets, family planning advisors, herbalists and other prominent citizens.

#### Course evaluation

In addition to constant modification from one semester to the next, an integral part of the course from the start has been student evaluation. Students have been encouraged to evaluate both content and presentation and have been asked to identify and suggest modifications to perceived problems. This approach has been invaluable both in improving the course and making it more sensitive to students' perceived professional needs. One might add that, overwhelmingly, students have rated the course highly and have responded positively and constructively.

#### The post-graduate course

Lectures for the B.Ed. degree are given once a month on a Friday and Saturday to enable part-time students from all over Bophuthatswana, and many from South Africa, to attend. The degree requires a high level of self-motivation and a lot of reading.

Designed largely with senior teachers, principals, inspectors, college lecturers and planners in mind, the EE option aims at providing a sound theoretical background in environmental education, although theory is linked to practical application wherever pertinent. The course draws heavily on relevant theory from related disciplines such as Ecology, Sociology and Psychology and educational theory is under constant scrutiny for its particular relevance. Like the undergraduate course it is cross-curricular, interdisciplinary and internationalist in approach but, unlike the former, it has not been practicable to include excursions and visiting 'lecturers' as a formal part of the programme. These do however form an informal and voluntary aspect.

The course outline is as follows:

- *Perspectives on environmental education.* A critical analysis of the concepts, principles and aims of environmental education.

Ideology, the environment and environmental education. The historical origins and development of environmental education and a critical appraisal of its current status and practice in Southern Africa. A review of current environmental issues and their socio-political, ecological and psychological bases of concern.

- *Aspects of planning for environmental education.* In this section the interrelationship between economic theory, educational planning and educational needs and priorities is examined with environmental education as the focus. The theory of needs analysis is introduced briefly and teacher education and environmental education is analysed in depth.
- *Methodology, approaches and teaching strategies appropriate to environmental education.* This includes a critical analysis of all formal curricula and syllabuses used in Bophuthatswana; the theory and problems of a cross-curricula approach; a critical review of teaching methods applicable to environmental education; an examination of the concepts of 'non formal', 'informal' and 'adult education' in terms of environmental education; the role of the teacher in the community; citizen involvement in environmental education and the use of the media.
- *The development of resource material for environmental education.* Methods for the identification and matching of needs and resources, planning the development and use of resources and evaluation of the products.
- *Evaluation.* A study of the principles and practice of evaluation in education applicable to environmental education plans, programmes and projects.
- *The application of the principles and practice of environmental education in Bophuthatswana.* A synthesis of the course.

This course is evaluated by students in a manner similar to that described for the undergraduate course above and with similar results.

#### CONCLUSIONS

The courses described are the first of their kind to be implemented in Southern Africa and arose out of a need to address a major issue of our times viz. the quality of the environment in which humankind lives - ecological, socio-political and economic. Notwithstanding careful preparation, they were experimental in nature and, like most experiments, have required modification to make them work better. This is an ongoing process and should, if relevance is a consideration, be continued indefinitely. The initial courses offered have, almost without exception, been regarded by participants as having been worthwhile and relevant to their professional needs. This is of course not the only criterion for the justification of university courses and other important considerations such as the integrity, viability and validity of the course must be given due weight. It has furthermore been argued (CERI, 1973) that for environmental education to transcend from an international movement (however strident or valid the concern) to an integral part of all human education, it needs as much as any other factor to be weighed in institutions of higher learning. Whether or not environmental education becomes the concern of tertiary education in general and teacher education in particular may be a major, if not the major, factor in declaring the long-term viability of the concept and much of what it stands for in terms of the human future.