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PROFESSIONAL DEVELOPMENT IN ENVIRONMENTAL EDUCATION IN ZANZIBAR, TANZANIA: DISTANCES ENCOUNTERED IN A SEMI-DISTANCE LEARNING COURSE

A thesis submitted in fulfillment of the
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By

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ABSTRACT

In Zanzibar, in 1995, opportunities for professional development in environmental education were minimal. Yet the demand for professional development was high, especially because of an emphasis on formal qualifications in the country. Credibility was afforded to forms of professional development, aimed at creating more ‘experts’. Ongoing environmental education practice was not achieving its objectives.

Into this setting, which was culturally and socio-politically different from the South African context where it was developed, I introduced the Rhodes University Certificate and Gold Fields Participatory Course in Environmental Education (RU/GF); a non-formal, counter-hegemonic course which encouraged critical reflection on the dominant orientations to environmental education practice – including professional development.

I used critical ethnographic and action research methods to explore my praxiological interest, the adaptation of the RU/GF curriculum to the Zanzibar context. During the research process, a decision was made to formally accredit the RU/GF course. This decision did not alter the course orientation or the learning process but opened up possibilities for future curriculum development processes. It allowed the students both a formal qualification necessary for status and promotion, and participation in a learning process that challenged the dominant paradigm on professional development and status from *within* the socio-political context.

The research took on a reflexive orientation to research and environmental education. Through a dialectical development of theory, method and results, several important issues emerged. These deal with the ‘distances’ encountered in attempting to address some of the perceived dichotomies in professional development in environmental education through semi-distance learning: the distances between status and learning; the need for career upgrading and the type of learning considered appropriate for professional development in

environmental education; the non-quantifiable aims associated with a reflexive orientation to professional development and formal assessment demands for measurable criteria; the democratisation of open-entry courses and the elitism of restricted access; the focus on individual growth and the attainment of a normative grade; theory and practice; and finally distances between learner, text and language.

The research supports similar findings emerging from evaluation of the RU/GF course in South Africa and resonates with, and contributes to, issues concerning professional development in environmental education being considered internationally.

THIS WORK IS DEDICATED TO

The students of the Zanzibar RU course
who helped to make the course what it was, who trusted enough to try it and
who, in the end, believed in the potential of the learning experience
which we shared together:

Ali S.Hamad; Khalfan A Juma; Khamis A. Said;
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CHAPTER ONE
An Orientation to the Study

1.1 Research focus

In 1995, I had been living in Zanzibar for six years and had been working as an Environmental Education Advisor for the Department of Environment for two years. I had helped to develop the newly-formed Environmental Education Unit within the Department of Environment. The demand for professional development for government staff working in environmental education presented a practical problem as appropriate, regional professional development opportunities were minimal. Added to which, the majority of these environmental education officers did not meet the basic entrance requirements for centres of tertiary education. These officers needed professional development in order both to improve their environmental education practice and to gain the status necessary for working with senior management on the implementation of desired changes in practice.

As a way of addressing this need, I introduced the South African Rhodes University and Gold Fields Participatory Course in Environmental Education (hereafter, called, respectively, the RU/GF course, when referring to the course as it is offered in South Africa; and the Zanzibar RU course, when referring to the course as I offered it in Zanzibar). The adaptation of the RU/GF course curriculum to the Zanzibar context presented the praxiological interest for this study. Initially, the research aimed to raise issues for ongoing curriculum development for the Zanzibar RU course. During, and as an indirect result of, the research process, there was a decision to formally accredit the course. This resulted in a broadening of the research focus to look at aims, assessment and curriculum appropriate for a formally accredited RU course. Later in the research process, as a result of events which are discussed in 3.2.3, it became impossible to continue offering the Zanzibar RU course. This resulted in a further shift in the research focus, although this time in terms of its audience and scope. This thesis reflects this broader focus which was to open up issues emerging from the data, which could prove useful and relevant for the ongoing RU/GF course development in South Africa.

These findings may also have a wider relevance as there is currently a concern for, and several initiatives in, professional development and capacity-building in environmental education not only in South Africa, but within the SADC region (see Lotz, 1999; Lotz and Janse van Rensburg, 1998; Ward and Taylor, 1999;) and internationally (see Fien and Rawling, 1996; Hay *et al*, 1994; Leach, 1996;Plant, 1997; Robottom, 1987b). The findings do not present a model for importing into other contexts, being aware of the problematic nature of the translatability of research findings, I hope that they may serve rather as a touchstone for similar initiatives.

1.2 Introduction to research methodology and process

The research group for this study was composed of:

- senior personnel from the Departments of Environment, Fisheries and Forestry in the Zanzibar government;
- the twenty-two students on the Zanzibar RU course, who were a mixture of practicing environmental educators and forestry and fisheries extension and education officers;
- two of the South African RU course developers; and
- myself as Zanzibar RU course tutor.

A tentative postpositivist critical orientation influenced the research design and my choice of action research and critical ethnography as the two methods for this study. The action research focused on the adaptation of the RU course curriculum for the Zanzibar context and involved myself and the students. Critical ethnographic data collection techniques, such as semi-structured interviews, regular and recorded group discussions, diaries and participant observations, complemented the action research by exploring the institutional context for, and evolving perspectives on, professional development in environmental education in Zanzibar. There was a shift to a tentative reflexive orientation during the data analysis stage which led to reflections on the methodology and a slight change in the way I used the data analysis techniques such as discourse analysis, triangulation and theme-mapping.

Data collection took place for a period of one and a half years between May 1995 and September 1996. The first stage of data analysis took place between

August and September 1996. This includeded a discursive dialogue session with the RU course students to explore the preliminary findings. The final stages of data analysis and theory-generation occurred between January 1998 and December 1998.

1.3 Chapter outline

Chapter Two outlines the research interest and describes the main contextual and theoretical features within which the research was situated and which raised issues for the research question. Faced with a lack of documentation in the literature on professional development in environmental education in Zanzibar, I exploited the richness of relevant professional experiences and projects in Zanzibar. This was enhanced by a theoretical perspective informed by international literature.

In Chapter Three, I describe the research methodology and process. Following a shift to a reflexive orientation to the research, I reflect on the dialectical development of methodology, theory and practice which took place during the research process, and the implications this had for the findings of the study.

In Chapter Four, I reflect on the action research nature of the study. I place certain findings and the discussion of these findings side by side within a presentation of each of four themes which emerged from the data analysis. As with grounded theory (Tilbury and Walford, d.u.), these themes were not articulated from the start, thus providing the lens for analysis of the data. They evolved during the research process and as a result of the dynamic interaction between theory, method and results. I use ‘distances’ as a metaphorical framework for the discussion of each of these four themes to signal their inter-relationship. In addition, the insights generated through each of these themes were related to the distancing effect of perceived polarities between certain concepts. The ‘distances’ discussed relate to the traditional dichotomies (Leach, 1996) of formal and non-formal professional development courses; of aims and assessment; of theory and practice; and of language learning and cognitive development.

Chapter Five concludes the thesis with a reflection on the outcomes and insights derived from the findings and what I have learnt through the research process.

1.4 Reader orientation

A convention, which I have considered inappropriate for the reflexive orientation to my thesis writing, is that of the 'authorlessness' of seemingly objective positivist research writing. I refer to the quote used in the introduction to the methodology section of this thesis (see chapter 3), which states that social science researchers generate the outcomes of their research influenced by the particular social contexts within which they are situated and the particular values and theories to which they subscribe (Lather, 1991). I do not, therefore, attempt to distance myself from the theory-generation process or its discussion within this thesis.

A further concern is that readers may question the seeming preponderance of references within the text to words spoken by or written by Dr. Janse van Rensburg. I think it is important that readers know that I am aware of this phenomenon and understand the reasons behind it. In a thesis dealing with distances, I too was 'at distance' from Rhodes University, from other centres of academia and from the group of people working on the RU/GF course development throughout the course of this research, with the exception of two short visits to South Africa. My access to the literature was therefore mediated through Dr. Janse van Rensburg, as was my understanding of ongoing RU/GF course development in South Africa. As encumbent to a Chair in Environmental Education, she has also played a major role in professional development initiatives in environmental education in the region and for this reason has worn many hats and produced varied documents which have been of specific relevance to my research; she is/has been:

∗ One of the original RU/GF course developers;
∗ Co-evaluator of the RU/GF course;
∗ Course coordinator for the Zanzibar RU course
∗ External moderator for the Zanzibar RU course students' assignments;
∗ Member of the participatory evaluation team for the Zanzibar RU course in 1996;

* My thesis supervisor.

As course developer, external moderator and member of the evaluation teams for both the Zanzibar RU course and the South African RU course, her quotes are used directly as part of the data. In her other roles, she has written extensively about the impact and further development of the RU course; such writings formed a core part of the literature relevant to the research focus, with which I engaged in the process of theory-generation.

5 The Zanzibar RU course

The Zanzibar RU course experience is a practical example of the "developing story of curriculum processes" (Lotz, 1999:8). Its origins lie in the Gold Fields Participatory Course in Environmental Education which started, after broad consultation, in South Africa, in 1992. The course expanded – to the Natal Parks Board, to Zanzibar, to Zimbabwe and to another South African course. In 1996, Rhodes University agreed to award a formal certificate in environmental education to those who successfully complete the course. The course, as it is offered in South Africa, is now known as the Rhodes University Certificate and the Gold Fields Participatory Course in Environmental Education. There is constant reference throughout the thesis to these two courses and I hope that readers are not confused by the similarity in names.

The Zanzibar RU course story highlights how, even within a context which supports a technocratic 'Research, Development, Diffusion, Adoption' (RDDA) approach (Robottom, 1987) to professional development, there is potential for opening up pathways for educational change through a process-oriented professional development course which is flexible and responsive to the local context. Following a decision to formally accredit the Zanzibar RU course, the students were able both to access a formal qualification necessary for status and promotion, and to participate in a learning process that challenged the dominant paradigms on education, professional development and status from *within.* Not only did the students acknowledge this as a valuable learning experience for themselves, they were also convinced that the course should continue in Zanzibar and be offered to others working in the field of environmental education and management. Two of the students aspired to be tutors in subsequent courses and other students wanted to have an input in subsequent courses in different ways. Discussions began as to how to build in financial sustainability for the course so that it would no longer be dependent on external donor support.

Political events and subsequent donor decisions to withdraw funding made those dreams impossible at that time. I can only hope that some time in the future, they will once again become a possibility. Meanwhile, I believe that the findings of this research are important not only for a hoped-for future course in Zanzibar but also for ongoing curriculum development processes both in the wider SADC region and internationally.

CHAPTER TWO

A contextual and theoretical framework for the study

2.1 Introduction

Early in the research process, when attempting to draft the contextual background and literature review sections of the study, I was concerned at the lack of literature on professional development in environmental education in Zanzibar. At the same time, I recognised the richness of local professional experiences and projects in contributing to both a contextual and theoretical background to the study, if reviewed in depth in the light of relevant international literature. I decided, therefore, to produce a combined contextual and theoretical framework for the study. This framework includes a critical review of local background material, together with a highlighting of the issues which the international literature raises for the research focus itself.

2.2 Background to the study

2.2.1 The Environment Policy for Zanzibar

The Environment Policy for Zanzibar was approved by Government in 1991. It was heavily influenced by the *World Conservation Strategy* and *Our Common Future* reports, and was coined “a Rio before Rio” by the Director of the Department of Environment. The policy called for a holistic treatment of environmental issues. It identified integrated ecosystem management systems and community participation in environmental decision-making as key strategies for the resolution of environmental problems in Zanzibar (*Environment Policy*, 1991). The Department of Environment called upon its Environmental Education Unit to implement an integrated community education programme in support of its priority environmental programmes.

2.2.2 The need for professional development in environmental education

Environmental education was a relatively new field of practice within Zanzibar, formally established in 1991, with the development of an Environmental Education Unit (EEU) within the DoE. As a result of the lack of trained professionals in Zanzibar (see Appendix 1), the Department employed school-leavers within the EEU who had not had the oppotunity to develop themselves professionally in the field of environmental education.

This new EEU faced the challenge of designing and developing an appropriate environmental education programme for Zanzibar. I worked for the African Wildlife Foundation (AWF) as Advisor, as part of an ongoing capacity-building programme[1] to assist the EEU to meet this challenge. The roles of the different Environmental Education Officers (EEOs) ranged from media and communication, curriculum development and environmental clubs to support for community natural resource management. I worked closely with the EEOs, exploring with them what were the aims and approaches for these programmes. In 1994, I participated in a training needs analysis, conducted by AWF, which identified the need for longer-term training in environmental education as well as short-term modules and workshops (Crawford, 1994). The DoE and AWF proceeded to look for an appropriate professional development course.

2.2.3 The choice of a professional development course

At the outset of the research, my own orientation to environmental education and professional development in environmental education shared many characteristics with a socially critical approach to environmental education and was strongly influenced by the writings of Fien (1993) and Huckle (1993). This orientation, together with the semi-distance learning nature of the course, led me to identify the Gold Fields Participatory Course in Environmental Education (now called the Rhodes University Certificate and Gold Fields Participatory Course in Environmental Education course i.e RU/GF course) as the most appropriate regional training course available. This course, which had been offered since 1992 to a wide range of environmental educators in South Africa, was also financially affordable for the Zanzibar students. It had no basic entrance requirements and allowed flexibility in the medium of instruction in order to assist poor second-language speakers. The course was of a semi-distance learning nature, which was based on a limited number of joint workshops, tutorials and workplace-based assignments. The semi-distance nature meant that it could offer access to learning for a large number of students in Zanzibar, which allowed the students to continue working in the field and aimed to help them to improve directly *what* they were doing in the field. It did not offer a formal qualification. It awarded a certificate of attendance and participation from Rhodes University (Orientation notes, RU/GF course file, 1995).

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[1] The African Wildlife Foundation provided technical assistance between 1993 and 1997 for the capacity-building programme for the EEU, as part of wider assistance to the Department of Environment, funded by the Netherlands Government.

2.3 Contextual and theoretical issues informing the research

The need for professional development in environmental education was a practical problem in Zanzibar (see 2.6). Much of this study was aimed at exploring the appropriateness and adaptation of the RU/GF course in Zanzibar with its particular history and context. The study was undertaken within, and informed by, a tapestry of complex, interwoven contextual and ideological features. At the outset of the research, I assumed the following were the most relevant to the research interest :

i. perspectives on professional development in environmental education of Zanzibar government personnel, as informed by their formal education experience (see 2.4), current environmental education practice (see 2.5) and the status of professional development in the islands (see 2.6);
ii. the RU/GF course orientation and international deliberations on professional development in environmental education (see 2.7);
iii. the semi-distance learning format of the RU/GF course (see 2.8).

There is no literature available on the perspectives of government personnel in Zanzibar towards professional development in environmental education. Having worked within the Zanzibar Department of Education as a teacher trainer for three years and then having worked alongside the EEOs for two years, I was very aware that these perspectives would be important to the effectiveness of the Zanzibar RU course. In my view, these perspectives were influenced by historical and contextual features, such as their formal education experience, their current environmental education practice and the status of professional development in the islands (see 2.6). Apart from Cooksey's (1986) analysis of policy and practice in Tanzanian secondary schools and Riedmiller's (1992) report on the need for environmental education, there is an absence of literature addressing these contextual features. I, therefore, draw on my own professional experience over a period of five years, donor-funded project reports, resource materials developed and personal communications, in order to illuminate these features for the readers. These descriptions are enhanced by a theoretical perspective which was informed by international literature. They represent the asssumptions which I had formed at the beginning the research. Part of the research interest was to explore, validate and challenge these assumptions.

2.4 Formal educational experience of government personnel in Zanzibar.

Emphasis on formal qualifications

As with other colonial countries, prior to independence in Tanzania, the educational system was stratified by the British colonial administration into highly academic schools for expatriates and schools focussing on agriculture and local community concerns for the indigenous Tanzanians. Despite the socialist politics of President Nyrere and his nation-wide literacy programme following independence, "the route to upward social mobility" (Vulliamy, 1987:12 describing a similar developing country context) became clearly stratified with a style of academic education that was based on centralised syllabuses and examinations. This stratification was emphasized in Cooksey's (1986) analysis of policy and practice in Tanzanian secondary schools. Promoting a socially critical orientation to education Fien (1993) argued that the reproductive nature of schooling and further education should be challenged, favouring a formal education system which "is both shaped by and responsive to the needs of society" (23). Interestingly, as a result of the "diploma disease" [2](Dore, 1997:8) within Zanzibar – and important to the focus of this research – I felt that the perceived needs of the Zanzibar society reinforced the emphasis on external examinations rather than challenged it. This, I believe, was because, once again to quote Vulliamy (1987:12), the "differentials between the lifestyles of the educationally successful and the unsuccessful (were) so much greater (there) than in industrialised countries".

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[2] Dore (1997:8) explains the 'diploma disease' as follows : "In the process of qualification … the pupil is concerned not with mastery, but with being certified as having mastered. The knowledge that he gains, he gains not for its own sake and not for the constant later use in a real life situation – but for the once-and-for-all purpose of reproducing it in an examination. And the learning and reproducing is all just a means to an end – the end of getting a certificate which is a passport to a coveted job, a status, and income…qualification is a matter of learning in order to *get* a job."

Formalist teaching approaches

Within the Zanzibar schools, teaching is formalist (Beeby in Guthrie 1980) within the vocational/neo-classical orientation; it shares characteristics with a behaviorist and instrumentalist view of the role of schools in society, within which knowledge is seen as scientifically objective and unquestionable (Kemmis, Cole & Suggett in Fien, 1993). Teacher authority is paramount with methodology limited to the “one best way” (Beeby in Guthrie 1980:414). This formalist teaching experience influenced the current environmental education practice of the EEOs. I also assumed that it influenced the expectations of the EEOs in terms of the methodological and epistemological approaches of professional development courses.

At primary school level, the medium of instruction was Kiswahili. At secondary school level, the medium of instruction was English. The ensuing language problems reinforced a didactic, unquestioning teaching style because most students were unable to comprehend the level of English used in secondary schools and therefore committed text to memory for examination. Another factor in this particular pedagogy is its similarity with Qoranic reading classes where students committed the text to memory by chanting before discussing the meaning of the text. This issue took on a greater significance for the research focus than I had originally assumed (see 4.5).

2.5 Environmental education in Zanzibar

2.5.1 Introduction

As noted above (in the paragraph on *formalist teaching approaches*), I considered that the environmental education practices in Zanzibar were influenced by the formal education experience of the EEOs. In this section, I aim to give an interpretation of the theoretical underpinnings of this practice. In this way I hope to provide a contextual framework to student and senior management perspectives on appropriate forms of professional development, a factor which was important in the successful adaptation of the RU course in Zanzibar.

2.5.2 Institutional context for environmental education programmes

The newly-established EEU was faced with the challenge of designing and implementing an integrated community education programme in support of the DOE's priority environmental programmes (see above). Other relevant community education programmes were in existence. However, as a result of the British colonial administrative structure maintained by the Government of Zanzibar, there was a reductionist approach to the different aspects of environment and community development, resulting in departmentalised programmes of conservation education, agricultural development, forestry extension and education, health education and community development. Similar reductionist assumptions were held with regards to interactions with the community. Each of these individual government departments had its own education section which was isolated, in turn, in terms of planning and practice from its extension/outreach section. This was an important contextual issue because the RU course was offered to a mixture of education and extension officers from the different government departments dealing in natural resource management.

2.5.3 Theoretical underpinnings of environmental education practice

2.5.3.1 Introduction

An analysis of the need for environmental education in Zanzibar which evaluated existing examples of formal education in Zanzibar found that the majority in practice were ineffective (Riedmiller, 1992). However, no research had been conducted in Zanzibar and indeed in East Africa on the theoretical framework for the non-formal education programmes. As O'Donoghue (1994) noted, with regard to environmental education in field centres and school project work in South Africa, such programmes have often been constructed to particular conceptual and ideological positions and yet these frameworks have seldom been either articulated or evaluated. The case was similar in Zanzibar. The EEU was working at the level of 'objectives', with reference to the Tibilisi objectives (Tibilisi, 1978), without identifying "what .. they want(ed) to get out of educating peple in this way" (Armstrong in Fien, 1993:37).

However, as a result of my experience as Environmental Education Advisor to the EEU, I was able to extrapolate certain ideological/theoretical underpinnings within the different forms of educational practice in evidence, based on a certain knowledge of the existing educational and administrative system and of the ‘social norms’ in Zanzibar which were shaping people’s practice. I felt that it would be useful to do so as the basis for reflection on practice within the RU course.

2.5.3.2 Framework for analysis of environmental education practice

At the time of writing the contextual framework for the research, I was influenced by a socially critical approach to education. I, therefore, found useful a text on critical curriculum theorising and environmental education by Fien (1993) which gave a historical and critical background to three theoretical frameworks which I then used as analytical tools for describing the educational practices in Zanzibar. It enabled me to relate these practices to particular philosophical and epistemological positions. These three theoretical frameworks are:

i. Habermas’ three “knowledge-constitutive interests”(Dunne and Johnston, 1992: 524);
ii. Kemmis, Cole and Suggett’s vocational/neo-classical, liberal/progressive and socially critical orientations (Fien, 1993) and
iii. Huckle’s differentiation between education ‘about, through and for’ the environment (Fien, 1993).

For the analysis of the environmental extension programmes, I used Chambers’ theoretical analysis (1994c) of rapid rural appraisal (RRA) and participatory rural appraisal (PRA).

I also reviewed the educational practice of the EEOs by referring it to interpretations of the Tibilisi objectives (Tibilisi,1978), which for the purpose of this section I grouped into two : Knowledge/ Attitudes/Values and Participation/Skills. I did this with reference to the mass media programmes, the environment clubs, extension programmes and community resource management programmes. The separation of the Tbilisi objectives as a framework for analysis was based on my initial assumption that the departmental segregation into two ‘disciplines’ of education and extension, which happened in each of the Departments of Environment, Fisheries and Forestry, and the resultant lack of collaborative planning reflected a difference in perspective on, and between:

- awareness campaigns and the teaching of values and attitudes, which were considered the realm of education, and
- the skills and information needed to change behaviour and to provide opportunities for participation in decision-making, which was considered the realm of extension officers.

This was not an attempt to dualise the EEO's objectives nor the 'disciplines' but more realistically reflect the conceptual distinctions implicit in the work programmes of the students on entry into the RU course.

2.5.3.3 Interpretations of theoretical frameworks

Knowledge, Attitudes and Values: Mass Communication/Media Programmes

Each of the education units in the Departments of Environment, Fisheries, Forestry and Agriculture focused on mass communication programmes which included weeky radio programmes, articles in the two local newspapers or specialised magazines such as *Mkulima* (the agricultural magazine) and posters. The environment, health and agriculture departments had regular television slots and used mobile education units. Characteristics of the communication programmes were :

i. a 'technocratic' (Robottom, 1987) focus on the definition of environmental problems and the production of educational materials, whereby ecological principles form the body of pre-existing knowledge which needs to be systematically selected and transmitted in order for "sound" environmental decision-making to take place (Hungerford & Volk, 1990:48). Knowledge was viewed as apolitical and existing outside of the social milieux (DiChiro, 1987). It was also elitist in that this knowledge was only held by the technicians and the *wasomi*, the educated (as described by one student). Programmes were influenced by behaviourism and transmission theories of learning. The aim of the *Mkulima* magazine, for example, was to "educate the agricultural community on improved farming techniques"(Head of Agricultural Education Unit, pers. comm. 1995). The forestry and fisheries programmes aimed to inform the community of the need to manage their resources more carefully (Head of Forestry extension unit, pers. comm, 1995). The environment radio programme followed a formula involving the teaching about ecology and biodiversity, the revelation of “disturbing facts and ominous predictions” (Uzzell *et al.*, 1993:1) and calls for better environmental management (taken from radio scripts produced by the EEU, 1995);

ii. a rationalist, scientistic approach (Paxton, 1994) to the definition of solutions to the problems. The problems were a result of the ignorance and “stubborn” attitude (Khamis Mussa pers. comm. 1995) of the community and of irrational traditional practices and beliefs (Hamza Rijal, pers. comm. 1994); solutions were identified by the technicians. Based on a linear model of behavioural change, it was believed that “increased knowledge leads to favourable attitudes ... which in turn lead to action promoting better environmental quality” (Ramsey & Rickson in Hungerford and Volk, 1990:45). Behavioural change was assumed automatic and there was therefore no focus on skills and participation or opportunities for action. When there was seen to be a need for skills-training, the community was referred to the extension departments;

iii. an instrumental view of education (UNESCO in Janse van Rensburg, 1995: 23) in which education was a tool for achieving these solutions. Transmission pedagogy was the basis of the mass communication programmes targeting the ignorant in the community.

This approach shared characteristics with what Kemmis, Cole and Suggett (in Fien, 1993) decribe as the main features of a vocational/neo-classical orientation to education. Underlying this orientation was the ‘technical interest’, as defined by Habermas (1972), which was based on the need for control and prediction of the environment and which :

- viewed socialisation, education and training as similar processes;
- characterised educational approaches by “a need to control what is learned and how it is learned” (Dunne and Johnston, 1992:516), and
- accepted technocratic and managerial values, holding a view of knowledge as scientifically objective.

This approach to education was similar in approach to what was defined by Huckle (in Fien, 1993) as ‘education about the environment’, which viewed both education and environmental management as neutral, but instrumental, processes. Education ‘about’ the environment was identified by situating it within a technocentric framework of environmental ideologies. Central to technocentrism is the belief that environmental problems can be solved without a consideration of “the social context, the political aspects of environmental decision-making, or the ‘vested interests’, that may exist in a controversial environmental issue or problem” (Robottom in Fien, 1993:41).

Environment clubs

The initiation and coordination of the Zanzibar environment clubs reveals a mixture of approaches :

i. the teaching of environmentally significant ecological concepts and of environmental interrelationships (Hungerford & Volk, 1990);
ii. the provision of experiential encounters in nature (Uzzell, 1993);
iii. the investigation of local environmental issues, such as a tar spill on the coast and the need for sustainable management of coral reef fisheries, including their socio-political context (Robottom, 1991);
iv. the clarification of values with respect to these issues and the clarfication of alternative solutions (Hungerford & Volk, 1990).

The approaches to club activities thus share characteristics with both the vocational/neo-classical and the liberal/progressive orientations to education; the liberal/progressive orientation recognises the need to address social problems but sees the potential for social change within existent structures and in the next generation of citizens, presently in schools and such extra-curricular environmental activities (Fien, 1993). Underlying this orientation is the ‘practical interest’ (Habermas, 1972) which is based on the understanding of, interaction with and sensitivity towards the environment, with an emphasis on student-centredness and the individual’s role in conservation (Fien, 1993).

Skills and Participation: Community extension programmes

As can be seen from the above analysis, a focus on appropriate skills or opportunities for action was absent from the majority of the existing education programmes. As objectives, these were explicit only within the extension/outreach programmes. On their part, the extension workers did not refer to their work as ‘education’ and they did not address the issues concerning attitudes and values within their programmes (Khamis A Haji, pers comm., 1995). However, as a result of some donor-supported training programmes in community development and natural resource management, there also existed a broader spectrum of approaches within the different departmental extension programmes. These included :

i. a technocratic, transmission pedagogy approach whereby the technicians identified the solutions to the problems and delivered this message to the target community. These solutions were viewed as value-neutral and apolitical;
ii. the creation of health and environment committees to analyse and improve living conditions, catalysed through the use of “activist participatory research”, a family of approaches used to enhance people’s awareness and confidence and to empower their action. This approach was influenced by Paulo Freire and his programme of “conscientizacion” (Taylor, 1993:30);
iii. the use of rapid rural appraisal (RRA) techniques in agricultural extension programmes , acknowledging “indigenous technical knowledge” (Chambers, 1994c:956) in order to learn more about rural agricultural conditions;
iv. the creation of local coastal management committees in the two villages of Fumba and Makongwe to address the problem of destructive fishing, and the creation of community forestry management committees. This programme was based on the evaluation of the ineffectiveness of a 5-year afforestation programme based on the introduced casurina tree (FINNIDA report, 1992) which characterised Agarwal’s depiction (1986:180) of “a technical fix to a social problem”. These committees in some areas were catalysed by participatory rural appraisal programmes (PRA), a family of approaches which have developed in part from activitist participatory research and are used to “enable local people to express, enhance, share and analyze their knowledge of life and conditions, to plan and act” (Chambers, 1994b:1253).

As can be seen, recently emerging was the use of PRA techniques in forestry management. Chambers (1994b:1257) writes that, in PRA, “the information is visible, semi-permanent, and public, and is checked, verified, amended, added to, and owned, by the participants”. This represented a change from activist participatory research, where participants' knowledge was validated by the experts and combined with 'scrutinised theoretical knowledge' (Huckle, 1995). PRA often aimed for radical personal and institutional change. Within the forestry programme, as a result of these programmes, there was a move towards decentralisation of control over forestry resources (Wild, pers comm, 1995). However, in the fisheries programme, there was still the lack of commitment and confidence to "trust" the local people to manage their resources (Makame Omar, pers. comm. 1994). Methodologically, PRA shared characteristics with Habermas' emancipatory interest in that it was not prescriptive but rather developed through processes of reflection and challenge, with an overt focus on power relations (Chambers, 1994; Dunne & Johnston,1992). However, as there was no forum for reflection on practice in the forestry programme, there tended to be an uncritical adherence to the methodology taught. Both the lack of a forum for critical reflection and the uncritical perspective towards training were factors which would influence the students' perspectives on the methodological approach of professional development courses, hence the need for the adaptation of the RU course in Zanzibar, as I explain below.

2.5.4 Implications for professional development in Zanzibar

The lack of articulated theoretical frameworks meant a weak basis for critical review and improvement of practice. Given the above interpretation of the theory and practice of environmental education and community development in Zanzibar, I assumed that a training course with a socially critical orientation would be appropriate for Zanzibar for the following reasons :

i. there was the need to develop a critical self-awareness amongst the environmental education practitioners as the basis for ongoing review and development of professional practice (Chambers, 1994c; Fien & Rawling,1996; Robottom, 1987) within the framework of 'education for change' (Janse van Rensburg, 1995b);
ii. there needed to be a more penetrating analysis of the appropriateness of prevailing programmes of behavioural change through instrumentalist education and awareness-raising (Hungerford & Volk, 1990; Van Rensburg, 1995b);
iii. there was the need to integrate and build on the positive elements of the

programmes of education ‘about’ and ‘through’ within the framework of education ‘for’ the environment (Fien, 1993; Huckle, 1995), and that of PRA (Chambers, 1994a) in order to engage the community in the active resolution of environmental questions, issues and problems;

iv. such a training course would be appropriate for the socio-cultural context of Zanzibar because for a socially critical orientation, the significance of action was in its locatedness within specific historical, political and economic contexts (Greenall Gough and Robottom, 1993).

Important to the effectiveness of such a course in Zanzibar was its credibility within the context of local perspectives on professional development in environmental education. These perspectives were influenced, I assumed, by the formal education experience and current environmental education practice (discussed in 2.4 and 2.5) and the status of professional development (discussed below in 2.6).

2.6 Status of professional development in Zanzibar

2.6.1 Constraints facing professional development

Within the Zanzibar government both professional development and credibility are based primarily on academic qualifications. Both remuneration and promotion are tied to them. Yet many constraints face the aspiring professional, including:

i. the lack of adequate teacher training facilities, educational resources and language barriers which resulted in a low level of basic education in Zanzibar. This meant that it was difficult for students to attain the minimum entrance requirements to centres of higher education;
ii. the lack of relevant courses in Tanzania, especially in environmental studies (Crawford, 1994);
iii. the lack of government resources to support tertiary students within or outside the country;
iv. the lack of donor support to sponsor students for undergraduate courses or other courses lasting more than two years.

2.6.2 Consequences of constraints facing professional development

As a result of working with the government of Zanzibar, I came to hold the following assumptions about the many consequences of the constraints mentioned above. These assumptions formed an essential part of the contextual framework to the research:

i. there were very few personnel in the government sector with higher education qualifications. The majority of government officers working in education or extension programmes held only school-leaving certificates. (See the table of numbers of trained personnel in government departments in Zanzibar, attached as Annex 1). None of the government officers working in education or extension had any formal training in environmental education;
ii. there was opportunism in seeking and accepting further education courses, with the focus more on qualifications obtainable than on relevance of the course content. As in other developing countries, schools and further training were viewed “extrinsically for their ability to promote mobility out of the subsistence sector to formal sector jobs, via the acquisition of examination certificates, rather than intrinsically for any knowledge or understanding gained within them” (Vulliamy, 1987:12) (discussed further in 2.4);
iii. senior management gave priority to the upgrading of their staff's academic qualifications over all other activities;
iv. the attendance of such a course took precedence over the sustainability of a programme of work e.g. a community resource management programme;
v. there was a general perception that academic qualifications were superior to experience within the field;
vi. despite the lack of funding, there was a general perception that unrelated long-term study away from the workplace was superior to job-specific in-service training;

2.6.3 Professional development in environmental education in Zanzibar

The majority of the personnel working in environmental education and extension in the Departments of Environment, Fisheries and Forestry did not hold the minimum entrance requirements for centres of higher education. They had no formal training in environmental education. In my observation, the environmental education practice in Zanzibar was strongly influenced by the practitioners’ own formal education experience, that of diplomated senior management around them and by the institutional context within which they worked (see 2.5.2).

An analysis of training needs of the EEU was conducted by AWF. The AWF report (Crawford, 1994) found that, as a result of the abovementioned pressure for formal accreditation, the EEOs' priority was the upgrading of their basic qualifications in order for them to enter higher education insitutions. The EEOs also identified communication skills and environmental knowledge as immediate training needs. The AWF report, thus, recommended a longer-term "in-service course" in order to meet immediate professional needs in the field whilst there was an ongoing effort to identify appropriate formally accredited training courses. It identified the following requirements for the longer-term professional development course:

i. to enable the students to work through the relationships of theory and practice in environmental education within their particular context;
ii. to provide a counter-hegemonic process in order to question the uncritically accepted assumptions and practice in environmental education based on traditional formal education experience;
iii. to be flexible in the minimum entrance requirements;
iv. to provide locally appropriate themes and materials;
v. to be affordable and accessible for all students.

There was obviously some potential conflict between the students' perceived professional development needs and the training recommendations proposed by AWF and this was an important contextual issue for the study.

2.7 International developments in professional development

2.7.1 Traditional approach to professional development

At the time of the design of this research, there was much discussion in the literature (Altrichter *et al*., 1993; Carr and Kemmis,1986; Lotz, 1995; O'Donoghue and Taylor, 1988; Popkewitz, 1991; Robottom, 1987) on the limitations of the dominant approach to professional development in environmental education as expressed in the Research, Development, Diffusion, Adoption (RDDA) approach, where the focus is on delivery of information from training institutions to practitioners about desired changes in practice. Robottom (1987) argued that this approach is based on the assumptions that the curriculum materials developed and being delivered represented a type of knowledge that could be applied by educationalists as ready-made solutions whatever the location. According to Popkewitz (in Robottom, 1987:293), "the RDDA model and its variations assume(d) that a universal, logical and efficient procedure exist(ed) for the definition and organisation of change" and that theory was the domain of the researcher and practice the domain of the teacher. The influence of critical theory (Kemmis, 1988) and the emergence of participatory research in formal education (Kemmis, 1988; Elliott, 1991) and in community development (Chambers, 1994a) also highighted the need for a form of training which acknowledged the complexity and diversity of the local contexts of the trainees and which involved them in the search for appropriate solutions and 'practical theories' (Kemmis, 1988). Robottom (1987:294) argued that the separation of theory and practice in the RDDA approach "denie(d) practitioners the power (through critical appraisal of their theory and practice) to identify and address those very contradictions existing in theory, practice and circumstance which constitute the conditions of continuity".

2.7.2 Alternative approach to professional development

Robottom (1987) proposed an alternative approach to what he defined as the technocratic, instrumentalist paradigm of the predominant RDDA approach in professional development in environmental education. This "information critique paradigm" was developed within a critical theory orientation. It was informed by the 'action research for educational change' perspective developed by Carr and Kemmis (1986), which assumed that practitioners were not atheoretical but had theoretical views which guided their practice and that theory transformed practice by changing the ways in which practice was experienced and understood and that this was achieved by "subjecting the beliefs and justifications of existing ... practical traditions to rational criticism" (Carr in Robottom, 1987:296).

Robottom (1987) delineated five principles that this form of professional development in environmental education should follow. It should be :

i. enquiry-based;
ii. participatory and practice-based;
iii. critical;
iv. community-based, and
v. collaborative.

Professional development should involve students in working towards solutions not only for environmental problems but also for the educational problems implicit in their profession.

2.7.3 RU course developers' approach to professional development

The RU/GF course was being developed in South Africa in the early nineties, parallel to the emerging movement within the international academic arena towards new approaches to training in environmental education. The RU/GF course was based on a critically reflective, practice-based pedagogy which shared characteristics with the five key principles outlined by Robottom(1987) (see 2.7.2).

It was designed to "explore educational thinking within environmental education practice with those who may have experience in the field, but little or no formal training" (Foreword to RU course, 1995). It assumed that "by becoming better informed of environmental education practice in general and better equipped to reflect on one's own practice, participants should be able to develop better ways of doing environmental education" (*ibid*.). Its orientation to environmental education emphasised the following concepts:

- that environmental education can be seen as a social process that is characterised by both history and context;
- that looking at history and context allows a necessary critical reflection on environmental education approaches;
- that meaning is socially constructed and, therefore, open to change, and
- that theory and practice are integrated (Orientation notes, 1995).

This orientation to professional development in environmental education seemed to both resonate with internationally developing orientations and to address the needs and issues identified as relevant to the professional development of the EEOs in Zanzibar (see 2.5.4 and 2.6.3).

2.8 Distance learning in environmental education in Zanzibar.

2.8.1 Choice of a semi-distance learning course

The RU course was chosen as the most appropriate regional training course available both because of its orientation to learning, outlined above, and because of its semi-distance learning nature. Distance learning has primarily been designed to assist the disadvantaged and to enhance egalitarianism (Evans and Nation, 1980). I noted above in 2.6.1, that, in Zanzibar, there were many practical constraints facing environmental education officers in the field who wanted to develop themselves professionally. The semi-distance nature of the RU course permitted access to further training for a number of students without specific entry requirements, was financially affordable and allowed the students to continue in the field whilst learning with the support of a local tutor, regular tutorials and workshops.

2.8.2 Issues raised by a semi-distance learning course

2.8.2.1 Introduction

Up to the 1970s there was little theoretical development in distance learning because much of the distance education was proprietary rather than governmental and lacked funding for research and course development. Since then, the separation of students from their teachers has created problems for the theorist as face-to-face interpersonal communication in the learning group at a school has been a cultural imperative for education in both east and west (Harry, John and Keegan, 1993). In the last twenty years, distance learning, both in practice and theory, has experienced rapid growth and there has been much interest in providing grounded theoretical positions to justify the dual challenges of the location of the students and the communication between teacher and student, student and student, learner and content (Harry, John and Keegan, 1993; Moore, 1993; Evans and Nation, 1989). In the 1990s much of the research has focused on the technological advances involved in the development of distance learning courses (Barker, Frisbie and Patrick, 1993). However, this was not a focus of this particular research due to the absence of sophisticated telecommunications technology within either Zanzibar or the RU course approach.

Although distance learning was seen as a powerful weapon against the problems which beset developing countries (Harry, John and Keegan, 1993:52) and despite the long history and prevalence of distance education in Tanzania, there is comparatively little literature available on distance learning in the developing world, especially courses which aim to develop critical reflection. Richard Guy's analysis of experience in the South Pacific (1990) proved the most useful background for this research. The local context of Zanzibar and the literature concerning the afore-mentioned teacher-student, learner-content relationships raised the following issues for this study:

2.8.2.2 Perspectives on distance learning in Zanzibar

I assumed that student and senior management perspectives on professional development would be one of the primary challenges for any training strategy in environmental education in Zanzibar (see 2.6.2). The environmental education officers were disempowered as a result of senior management and professional colleagues' view of their qualifications and capacity (see 4.2.2.2 for validation of this assumption). It was a challenge to find a training course which both addressed their specific training needs in environmental education and was at the same time recognised by senior colleagues as 'real and serious'. Guy (1990a) found that, in the developing world, distance learning was viewed as an inferior form of education. This research aimed, therefore, to explore the views of senior management in Zanzibar at the beginning and end of the training course and also to monitor the views of the students, through action research.

2.8.2.3 *Some of the 'distances' in distance learning*

In order to support more effectively a reciprocal teaching-learning process between teachers and students (Evans and Nations, 1989), the RU/GF course used a model of "self-study with the assistance of peers and tutors, as well as frequent interaction with others in the field" (Janse van Rensburg, 1995a:4). Apart from physical distance, Janse van Rensburg identified other boundaries of "space, time and theory" involved in this particular distance learning course which included those set by centralised course development, personal time for study, perceived gaps between theory and practice, between experts, novices and authoritarian educational theory. In Zanzibar, assuming that there would be need to further reduce such ‘distances’, we designed a tutor-system, incorporating regular tutorials, inter-island seminars and study-groups. Through participatory action research, we aimed to investigate the distances encountered during the training course and how, if indeed, they could be overcome.

2.8.2.4 Critical reflection in distance learning

The RU course focused on critical reflection as the basis for professional development in environmental education (see 2.7.3). The literature on critical reflection in distance learning raises challenging questions for such a focus. Evans and Nation (1989) pointed out the dichotomy between aiming to develop the critical reflection capacity of students and at the same time subjugating the students by text and distance. Guy (1990b) found that the low reading level of many students studying in a second or third language and the low level of critical capacity made it difficult for them to recognise that knowledge was not an absolute. It was my assumption that these would be key issues for this research because the formal education experience of the students in Zanzibar had not previously required of them any form of independent or critical thought or critical analysis of text (see 2.4), and the majority of the students of the course experienced problems in both reading and expressing themselves in English. I did indeed find that the development of critical reflection was a challenge, as I discuss in 4.5 in relation to language and text.

2.9 Conclusion

In the next chapter, I outline the research methodology and process, noting the specific aims of the research, as shaped by the above contextual issues and theoretical considerations. I also note shifts in the research focus which were necessitated by further contextual factors, as explained in what follows.

CHAPTER THREE

Research methodology and an account of the research process

> In the social sciences researchers usually generate rather than discover the outcomes of the research. They do so within particular social contexts, which influence them and the research process, and within the values and theories to which they subscribe.
>
> (Janse van Rensburg, 1995b:14)

3.1. Introduction

Different authors (Lather, 1986b, 1991, and 1994; Robottom, 1987; Tilbury and Walford, d.u) argue that research methodology cannot exist independently of values and assumptions, despite positivist claims that a state of value-neutral objectivity can be achieved as a result of the logic and precision of the scientific method. Ideological assumptions[3] influence the choice of research topics and research methods. They also influence the generation and analysis of data. This chapter aims to describe and reflect on the methodology for the study through the following:

i. a description of the theory of the methodology (see 3.2.1) which, in turn, influenced
ii. the design of the study (see 3.2.2);
iii. an account of the research process (see 3.3);
iv. reflections on the methodology, which were informed by and led to new theoretical insights, and a description of the journeying between different theoretical positions (see 3.4.1 and 3.4.2);
v. a reflection on the dialectical development of methodology, theory and practice (Robottom and Hart, 1995; Janse van Rensburg, 1995b) and the implications this had for the findings of the study (see 3.4.3).

I am indebted to the reflexive model for the description of a research process developed by Janse van Rensburg (1995b) which enabled a focus on insights on methodology rather than either (1) a record of methods in order to allow others to test the reliability of the results, which would be the intention of a positivist stance or (2) detailed descriptions of techniques and contexts from a non-reflexive interpretative stance. While the chapter does include a discussion of the ideological subjectivity of the researcher which is characteristic of a critical theorist stance, this is done in an exploratory, reflective way which is lacking in much of critical theory (Lather, 1986).

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[3] My use of the term ‘ideological’ here refers to Lather’s early discussion of the need to be “openly ideological” i.e. an explicit and articulated awareness of the values and theories influencing one’s standpoint; the term is not used to imply either unexamined beliefs or political standpoint.

3.2 Research Methodology

3.2.1 Theory of the methodology

Initially, I began the study from a tentative position within a postpositivist critical theory orientation. I drew on Giddens' structuration theory (Leroke, 1994) which emphasised reflection, "discursive penetration" of societal patterns and power relations (413), which rejected a dualistic view of structure and agency and which argued that people "may make use of these findings to change their conduct". I subscribed to Lather's description of "change-enhancing" knowledge production - as opposed to the more radical language of social transformation characteristic of critical theory. I felt strongly the need to disclaim the notions of enlightenment and empowerment central to critical theory and looked to a reflexive orientation to illuminate these seeming contradictions. I was concerned about articulating a tentative position, however, Janse van Rensburg's Ph.D. work (1995b) opened up for me the possibility for 'shifts' in my own orientation as understandings about methodology, theory and practice develop dialectically through the research. I was excited not only by the prospect of learning more about the focus of the study, but also by the fact that I would be coming to a deeper understanding of 'myself within the research' through the research itself.

3.2.2 Design of the study

3.2.2.1 Objectives of the study

The objectives for the study were:

i. to clarify and describe the perspectives of senior management personnel on professional development in environmental education in Zanzibar;
ii. to explore the evolving perspectives on professional development in environmental education of the RU course students;

iii. to develop further the curriculum of the Zanzibar RU course through action research;
iv. to investigate the opportunities and issues for professional development in environmental education through the Zanzibar RU course;

3.2.2.2 Methods for the study

My postpositivist critical orientation (see 3.2.1) influenced the choice of two methods for this study:

i. critical ethnography (Lather, 1991), the methodological task of which was the exploration of the participants' views of reality, where the views come from, and the social consequences of such views, all situated within a context of theory-building (Lather, 1986). Through critical ethnography, I aimed specifically to investigate the institutional context for the students' perspectives on professional development in environmental education and what determined 'choice and constraint' in their social situation (Heylings, 1995); and
ii. action research (Elliott, 1991), which would allow me to investigate my own practice as a tutor of the RU distance learning course from 'within' that practice. The action research was to focus on the demand for, and the type of, adaptation of the RU course curriculum necessary in order for it to address the Zanzibar students' needs and expectations. I was drawn to the processes and principles of participatory action research (Reason, 1994; Robottom and Hart, 1993) but as I wrote the research design, I was aware that the interest in the research was mine and that I had developed the research focus without the students' participation. Therefore, I had already excluded them from the design process. I did not feel that this study could be termed 'participatory action research' as described by Robottom and Hart (1993) and Reason (1994). However, I did aim for and promoted a participatory orientation within the action research for two reasons: firstly, I felt that it was only by engaging with the students on the appropriateness of the learning process that we could work towards effective adaptation of the curriculum; secondly, I saw the action research on the curriculum of the RU course as an experiential way for them to develop and reflect on skills being promoted in the RU course i.e. critical reflection on practice.

3.2.2.3 Research Group

As noted above (see 3.2.2.2.i.), I wanted to explore the perspectives of all those involved in what determined perceived choice and constraint for the environmental education officers and to invite the students to participate as co-researchers in the action research. For this reason I selected the following as members of the research group:

i. the 22 RU course students who came from within the Departments of Environment, Fisheries and Forestry;
ii. the senior management from the Departments of Environment, Fisheries and Forestry;
iii. the course co-ordinator and one of the course developers, both of whom came to visit Zanzibar for moderation purposes;
iv. myself as course tutor.

3.2.2.4 Data collection techniques

I used the following data collection techniques, which were appropriate for both the critical ethnography and action research methods:

i. semi-structured interviews (Burroughs in Janse van Rensburg, 1995b), which were chosen because of their flexible nature and the freedom they offered to explore issues raised by the interviewee;
ii. unstructured interviews, which I used whenever an opportunity presented itself to explore in more depth a particular issue with an individual student or member of senior government;
iii. focus group discussions (Kitzinger, 1994; Morgan and Spanish, 1984), where the group interaction in the discussion of a topic of mutual interest was used explicitly as data. Focus group discussions also provided the forum for monitoring the effects of different action strategies in the action research and for enabling a reciprocal reflexivity concerning ideas being tested and data being generated - these evaluatory activities, in turn, served as data;
iv. a research diary (McKernan, 1991), which provided a running ethnography of life during the teaching of the RU course, a tool for reflection, self- and course-evaluation, and contained "observations, feelings, attitudes, perceptions ... hypotheses (and) lengthy analyses"; I also used the diary as the place for recording action research case reports (Elliott, 1991),

anecdotal records (McKernan, 1991) and accounts of reconstructed events, such as tutorials;

v. documentary analysis of the reports written following the South African moderators' visits (Taylor, 1995; Janse van Rensburg, 1996), the participatory evaluation report of the Zanzibar RU course (Janse van Rensburg, 1996), written assignments and evaluations by the students, and the report of the South Africa Rhodes University and Gold Fields Participatory course evaluation (SARUGE, 1998).

3.2.2.5 Data analysis tools

I used the following tools for data analysis:

i. triangulation; Lather (1986) saw triangulation as critical in establishing data trustworthiness and argued that multiple data sources, methods and theoretical schemes should be used to seek counterpatterns as well as convergences. I used the following multiple data sources:
   - semi-structured and unstructured interview records;
   - action research case reports;
   - research diary records of focus group discussions;
   - research diary accounts of reconstructed events, such as tutorials;
   - written evaluations by the students;
   - written assignments by the students;
   - relevant documents written by the course developers.

ii. mapping themes; the method for the initial stage of data analysis was worked out together with Janse van Rensburg (pers. comm., 1996) and shared characteristics with Tilbury and Walford's (d.u.:55) method for evolving "grounded theory". The triangulated analyses were informed by my focus on drawing out findings on a) the perspectives on professional development in environmental education and b) the 'distances' encountered in a distance learning in environmental education. I found that the following five themes were emerging from the data analysis:
   - distances encountered in distance learning in environmental education;
   - perspectives on professional development in environmental education;

- accreditation and assessment for the RU course;
- perspectives on theory and practice
- second-language English issues.

I proceeded to map these themes on a very large flipchart, referencing them as I went, in a similar fashion to the web of variables described by Tilbury and Walford (d.u:57). The map only reflected what was emerging from the data once I started to make explicit the linkages between the different themes as they were all inter-related (see fig 1). These themes maintained a consistency and inter-relationship throughout all stages of the data analysis and provided the framework for the discussion of the findings of the study. As the distances encountered were so inextricably interwoven with the other four themes, I decided to absorb them in these other themes and use 'distances' as a metaphor for reflection on these very themes (see Chapter Five).

iii. discursive dialogue (Lather, 1991); I used discursive dialogue as the basis for reciprocal reflexivity and critique between the students and myself during the data analysis stage. Having reached the first tentative conclusions about emergent themes from the triangulated analyses described above, I discussed these with a sub-group of the students to conduct what Reason and Rowan (1981) called 'member checks' in an effort to establish what Lather called "face validity" (Lather, 1986:67). This discussion validated the strength of certain observations, enabled me to refine certain conclusions and challenged one conclusion in particular. A record of this discussion then became part of the data and enriched the second stage of analysis. However, once I moved from Zanzibar, reciprocity with the students became very difficult (see 3.4.1.5).

iv. construct validity (Lather, 1986); this stage of the data analysis involved not only the triangulation of data but also the triangulation of theory. Construct validity was used as a way of avoiding conceptual overdeterminism, the tendency of theoretical imposition in critical theory, which has been much criticised (Leroke, 1994; Lather, 1986).

3.3 The research process

The following is a chronological account of the research process. As different events were happening throughout the course of the study, I provide the following key to make reading and understanding a little easier:

- in normal font, the critical ethnographic and data analysis events;
- *in italics*, the action research cycles of enquiry;
- **in bold** the historical events which affected the research process itself.

On the 1st May 1995, we began the first cycle of the action research programme involving myself and the twenty-two RU course students. I introduced the 'general idea' (Elliott, 1991) for our investigation at this stage.

On the 20th May 1995, we evaluated the general idea of the first cycle and the students participated in the definition of a revised general idea and action plan for the second cycle of enquiry.

On the 12th and 14th July 1995, I held semi-structured interviews with senior management from the Departments of Environment and Forestry to ascertain their views on professional development in environmental education.

Between the 25th August and the 2nd September, I accompanied Jim Taylor, one of the course developers of the RU course, holding informal unstructured interviews with the students and senior management, as well as discussing the course with him myself.

By 20th September 1995, nine students out of twenty-two had left the course for the following reasons: six students had been removed from the course in order for them to attend further study opportunities on the mainland; one student felt himself overwhelmed with new responsibilities following his promotion and could not devote the time necessary to the course; two other students had left the course because they felt it inappropriate to their needs.

On the 17th November 1995, the remaining students and I refined the general idea of the second cycle of enquiry. The students raised the issue of *accreditation as a pressing area for investigation and, therefore, the general idea for the third cycle of enquiry focused on how accreditation affected the general idea worked on so far.*

On the 16th December 1995, in the fourth cycle of enquiry, I co-designed the evaluation strategy with one of the students who then facilitated this enquiry session. There were no changes made to the general idea for the enquiry which had been agreed in the third cycle of enquiry.

On the 17th December 1995, I conducted a series of unstructured interviews with a sub-group of the RU course students to explore their views on professional development in environmental education and the choices and constraints they perceived in their personal career development.

Between the 16th and the 26th February, 1996, I formed part of the participatory evaluation team evaluating the AWF training strategy for the environmental education officers, which also involved the RU course co-ordinator in facilitating an evaluation of the RU course together with the students and senior management.

On the 30th May 1996, the students and I conducted a final evaluation of the action strategies planned as a result of the fourth cycle of enquiry, and of the action research programme as a whole.

Between July and August 1996, a decision was taken by the Netherlands Government to freeze all further funding to the Department of Environment as a result of political events during and after the Zanzibar first multi-party democratic elections. This meant that the RU course would not continue with a new group of students, which had an impact on the part of the research focus looking at future RU course development in Zanzibar. It also meant that I would have to leave Zanzibar earlier than planned.

Between the 22nd and the 26th August 1996, I completed the first stage of the data analysis through triangulated analyses and mapping of the emergent themes.

On the 27th and 29th August 1996, I conducted semi-structured interviews with Rhodes University staff who are working on similar issues to those emerging from the preliminary analysis of the data.

At the beginning of September 1996, a decision is made by Rhodes University to award a Rhodes University Certificate for completion of the RU course rather than merely a certificate of attendance.

On the 5th, 7th and 13th September 1996, I successfully held discussions with the Director of the Zanzibar Commission for Manpower to negotiate the recognition by the Zanzibar Government of the RU certificate as equivalent to a formal qualification.

On the 25th September 1996, I held a discursive dialogue session with a sub-group of the students to explore the tentative findings of the preliminary stage of the data analysis.

On the 29th September 1996, I conducted semi-structured interviews with the senior management of the Departments of Environment, Fisheries and Forestry to explore their post-course views on professional development in environmental education.

On the 30th September 1996, I left Zanzibar.

Between January, 1998 and December 1998, I worked, part-time, on the triangulation of theory through a wider reading of relevant literature and on further data analysis and theory-generation from the findings. I changed the focus and objectives of the data analysis from issues for curriculum development of the Zanzibar RU course to *issues concerning future RU/GF course development in South Africa* (see 3.4.1.3).

3.4 Reflections and journeying

3.4.1 Reflections on the methodology

3.4.1.1 Introduction

During the data analysis I moved away from Zanzibar. Following, and partly as a result of this move, data analysis took on a reflexive orientation and resulted in the reflections on the theory and research design for the study described below. Through a more extensive reading of the literature and through reflection on the research experience, I have experienced a certain clarification of what ideological positions I could subscribe to. I have come to a greater awareness of what is 'underfoot', of the swamp-like nature [4]of seemingly firm, dry pathways – for example, what was signified by terminology that was compellingly adopted, such as 'socially critical' and 'action research'.

I use *discourse analysis* as one of the tools for a reflective analysis of the theory and design of the study and I also used it to illuminate some of the findings of the data (see 4.4). The reason why, and the way in which, I use discourse emerges from a changing theoretical position. For this reason I elaborate on the method here as it illustrates a resultant methodological shift in the research. It is significant to me now that I did not consider this as a method for data analysis within the original research design.

Discourse analysis is seen as a major research method for critical researchers (Fien, d.u.). It can serve as an emancipatory activity by deconstructing the processes by which meanings are generated and value-laden. In a critical theory framework, discourse analysis is often limited to revealing power relations, uncovering "a true and real deep structure under layers of mystification" (Lather, 1994:41); it was not used to analyse or critique its own ideology. Post-modernism has helped to question Habermasian commitment to Enlightenment's grand narratives (Agger, 1991; Van Heerden, 1994) and belief in axial structural principles (Agger, 1991) which just need discovering in order to change them for a consensual idea of utopia. I attempt to use discourse analysis from within a reflexive orientation[5] in order to heighten that self-reflection which has been found wanting in much of critical theory (Lather, 1986). I want to focus on our too easy use of taken-for-granted forms (Lather, 1991), to reveal the inconsistencies inherent in theoretical standpoints, in order to

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[4] Here I use a reference to swamps as a helpful simile because of the multiple views on their nature : unstable and dangerous underfoot if unprepared; rich and fertile habitats for growth and diversity; undervalued and exploited; fragile and vulnerable; of changing shape and dimensions.

> keep things in process, to disrupt, to keep the system in play, to set up procedures to demystify continuously the realities we create (5),

and so help myself to continue questioning the ground beneath my "situatedness" (Lather, 1994). However, I am aware that I could be accused of what Lather also calls the "desire to domesticate deconstruction"(5) as I have only a limited knowledge of its historical, political, ideological and linguistic background and development.

3.4.1.2 Inconsistencies in the initial research design

Inconsistencies and, perhaps, gaps in experience are apparent in my initial research design:

i. despite disclaiming notions of social transformation, my choice of methods reveal that I found the 'action' nature of critical theory compelling – I included no disclaimers about the methods chosen; I did not realise, or did not question, that at the very core of critical ethnography and action research methods was a commitment to empowerment and radical change (see 4.4.3.2) (Fien,d.u.; Lather, 1986);

ii. critical theory influenced my methodological orientation. I assumed that central to action research was participatory reflection on, and validation of, the practical theories generated during the research. I did not subscribe to a view that theory sought to assume "absolute authority over the workings of society and the possibilities for change"(Leroke, 1994:414) or that there was a 'truth' to be found. I wanted to avoid "conceptual overdeterminism"(Lather, 1986:64) yet it has been argued (Leroke, 1994; Lather, 1991; Agger, 1991) that self-reflection within critical action

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[5] Due to limited space available, refer to Janse Van Rensburg's description (1995b:58)of discourse analysis from within a reflexive orientation.

iii. research has the goal of Habermasian consensus-making within the framework of its own worldview (see reflections on action research in 3.4.1.3).

These inconsistencies led to tensions in the generation of theory through the action research. My growing understanding of these inconsistencies and tensions – as a result of reflection of a meta-methodological kind – led to an enriching of the research. It led to insights into not only data collection and analysis on the RU course but into the learning processes WITHIN the course (see 3.4.3).

3.4.1.3 Change in research focus

As a result of political developments and subsequent donor decisions (see 3.3), it was impossible to continue developing the RU course in Zanzibar. Following discussions with my thesis supervisor, there was a change in the research focus and objectives for the data analysis from issues for curriculum development for the Zanzibar RU course to *issues concerning future RU course development in South Africa* in an attempt to enable the findings of the study to be useful and informative for current curriculum development work. I hope that these findings will also have a wider relevance as a result of the current interest in professional development and capacity-building in environmental education in the SADC region and internationally (see Chapter Five).

3.4.1.4 Reflections on action research

Interestingly, the choice of action research as methodology did result in action and change, although in a way which challenged the notion of the transformative intellectual and its associated simplistic concept of empowerment (4.2.3.2). It was an example of what Janse van Rensburg (1995b) describes as the "complex and dynamic situations in which power can .. be seen as shifting continually between different people in different situations". The theory generated from the action research did praxiologically inform and transform the theory which informed it (Kemmis, 1993). The issues surrounding the need for formal accreditation were more complex than I had presupposed (see 4.2). The theory generated through the data showed that there was a need for more than adaptive curriculum development; there was a need to change the nature of the RU course from a non-formal to a formally accredited course. Rather than leading the study group to question their perspectives on formal accreditation, the focus turned to questioning my own and the RU course's perspectives on formal accreditation. The research focus changed from investigating the "social consequences" of the RU course (Heylings, 1995:4) to investigating the consequences on the RU course of this theory (see Chapter Five for implications of this for the findings of the study.).

During the data analysis, I came to realise that I was more interested in a postmodern view of multiple voices and multiple realities (Tilbury and Walford, d.u.) rather than reaching a Habermasian "universal speech situation governed by norms of dialogical equality and reciprocity" (Agger, 1991:120). However, it became clear that the techniques I used in the action research cycles of enquiry were based on group problem-solving, where having drawn out the differences of opinion, there is facilitation towards finding a common way forward. This is reflected in the action research case reports which I wrote; on further investigation they reveal the characteristics of Habermasian communicative rationality (Agger, 1991) i.e. an attempt to come to a consensus about what to do next, which was necessary for the spiralling cycles of action research and led to challenging outcomes but which, along the way, limited the expression of diversity. It was the triangulated analysis and theme-mapping which enabled me to enrich the data in this way (see below).

3.4.1.5 Reflections on data collection and analysis techniques

At the data analysis stage, I came to see that, in terms of the research group :

I should have maintained contact with the students who left the course as their views would have enriched the patterns and inconsistencies emerging through the data, especially concerning the issue of formal accreditation;

I depended too much on the short Zanzibar visits and the ensuing reports of the course developers in order to draw conclusions about their perspectives; I assumed a fixedness of these views, rather than engaging them in the dialectic nature of the research process or finding out how these perspectives may have been shifting as a result of the course in South Africa.

Ongoing reciprocity concerning the theory-generation following the first session of discursive dialogue with the students (see 3.3) became problematic as a result of several factors. The first involved my physical distance from the locus of the study . The second involved the change of focus for theory-generation from the data analysis: from issues for curriculum development for the Zanzibar RU course to *issues concerning future course development in South Africa*. As I engaged with the literature and the data, the distances challenging reciprocity became more than just those imposed by geography and poor communications systems; as Grossberg (in McLaren and Giarelli, 1995:4) noted, "critical discourses are both constrained and empowered by their conditions and modes of production (i.e. access to specialised vocabularies, sites of intellectual production and distribution). I felt that I was growing in my own understanding but that the modes of production, as noted above, removed me from the participatory nature of the research. I knew it would not be easy to share and discuss these theoretical findings with the research group. Bauman (in Leroke, 1994:413) argued that Giddens believed that because social science employed methods of investigation which produce knowledge that surpassed that of laypeople, it was able to provide more penetrating insights which were later used by social actors. I found this a challenging issue as I did not subscribe to Giddens' view nor did I favour 'plainspeak' (for discussion of tensions involved in simplification of language see Janse van Rensburg and le Roux, 1998). These are tensions and contradictions which must face researchers involved in participatory research when their sites of intellectual production and distribution demand a certain level of specialised vocabulary which is not accessible to the study group in question.

I was now involved in the discourse of the South Africa RU course developers and yet, paradoxically, I was not involved with them in a discursive dialogue either. This became an individual, introverted experience, throughout which I have been very aware of the problematic nature of the translatability of the experience in Zanzibar to that of the South African RU course. However, personal communication with Janse van Rensburg and engagement with the literature emerging from ongoing course evaluation in South Africa leads me to believe in the potential for theories generated through a comparative experience.

My view on the purpose of *triangulation* was also challenged. Initially I assumed that this was a tool for establishing credibility of the findings (see 3.2.2.5). I presumed that it would aid in the elimination of bias and would support a finding by showing that different measures of it supported or, at least, did not contradict it (Miles and Huberman in Mathison, 1988). I realised that, from a more reflexive orientation, triangulation could be used to study when and why there are differences (Patton in Mathison, 1988). This is the way in which I used triangulation in the final stage of data analysis. Although at the data collection stage, I had not consciously attempted to portray the complexity of views which existed, this orientation to triangulated analysis and theme-mapping (Mathison, 1988) enabled me to capture the multiple realities which existed, or had emerged through the data collection process, and to map this data in such a way that it would highlight the patterns and inconsistencies emerging.

During the process of triangulating theoretical orientations in order to establish what Lather (1991) termed '*construct validity*', finding my way through the literature became a kind of jigsaw puzzle. When physically unpacking the relevant literature which I had taken with me, I found myself trying to categorise it in order to make my reading more orderly. I had expected to be able to organise the different theoretical traditions i.e. from critical theory to post-modern theory. As this task eluded me, I began to come to both a physical and intellectual sense of the post-paradigmatic (Lather, 1991). As I tried to find my way around what has been written, I also became very aware of how one reads for what one wants to find; a re-reading of the literature, after a long period away from it, enabled me to see, for example, the selective reading which had taken place during the writing of my research proposal (see 3.4.1.2). I experienced a paradoxical sense of being alone in finding my way through this complicated web of readings with few signposts and yet, feeling that the pathways open to me were influenced by the readings made available to me i.e. I was not able to wander into the reference library and pick out my own readings, follow my own leads. My original set of readings were mainly based on critical theory but I was able to source additional readings from my supervisor on critiques of this theory from post-modern and feminist theoretical orientations. Based on these, I was able to request others. This made me reflect on the distance nature of the RU course and its materials and how text is a matter of a theory of institutions (Guy, 1990); not just in the way it is written, but also how the choice of which text is made available can promote certain forms of knowledge production (see 4.5.2).

3.4.2 Journeying to situate myself

The real attempt to arrive at situated methodology in the conflictual intellectual terrain of research (Lather, 1994) came during the period of reflective data analysis. Theories were generated during and through the data about the research focus but I rarely reflected on the theoretical underpinnings of the research methodology "within practice". I was a little lost, knowing that I challenged some of the central tenets to critical theory (see 3.2.1), did not have an interest in the nihilism and relativism (Agger, 1991) of postmodernism and poststructuralism and looked to a reflexive orientation, which I found hard to situate outside of these other frameworks. I am grateful to the following texts which provided an in-depth critique of the historical, political, epistemological and ideological shifts and movements within critical social theory, from a viewpoint which I found useful and to which I subscribe at this point in time:

- Lather's discussion (1991:11) of the "post-paradigmatic diaspora" which questions the desire to present "ideas as novel and distinctive that are better framed as historically rooted and relationally shaped by concepts that precede and parallel as well as interrupt them;
- Kincheloe and Steinberg's (1993:296) tentative seeking of a "middle ground that attempts to hold onto the progressive and democratic features of modernism while drawing upon the insights postmodernism provides concerning the failure of reason (and) the tyranny of grand narratives", tempering the critical theorists' emancipatory system of meaning with "a dose of post-modern self-analysis";
- Popkewitz's (1995) description of the "continuities and discontinuities in current critical scholarship" (xiii) where the continuities can be understood in relation to Enlightenment commitments to social progress and the discontinuities can be explored by examining the assumptions about

change and power. He points to a revitalised pragmatism in social theory which does not involve a denial of agency i.e. the ability of people to intervene in the world and struggle for better possibilities but in which "the inscribing of agency is in the pragmatic search for solutions in which norms of a just society are conditionally accepted and revised through the ongoing constructions of social practices; it is not by a prior theorising of the subject and positing of practices as a precondition of progress itself"(xvi);

- Janse van Rensburg's (1995b) description of a reflexive orientation whose aims were the co-construction of knowledge, the development of the capacity for change and "productive action" (68); an orientation which questioned critical theory's fixed ideals of enlightenment and transformation and wherein research was not a means to an end, but part of an ongoing process of critical reflection in and on action, theory and social processes.
- Romm and Sarakinsky's (1994) explanation of symbolic theory which sees knowledge production as "a process which occurs through the dialogical encounter between competing viewpoints, an encounter which leads to an enrichment of different ways of seeing" (414) rather than the Habermasian ideal of consensus-achievement through dialogue;

I, therefore, find myself situated, at the moment, within a reflexive orientation to environmental education and research, which I see as developing from within a postpositivist critical social theory framework. Within this framework, I am interested in what post-modern thinking brings to the reflexive orientation but feel a need for further reading and understanding of the many developments in that area of social theory.

As a metaphor, I develop one created by Usher (1997) who talks of the post-paradigmatic condition as one where the boundaries are blurred. Instead of the neatly distinct 'fields' of paradigms (behaviourist, socially critical) we have an ill-defined 'moorland' of educational processes. Through our post-modern lens the wetland looks fertile and productive; through our modernist spectacles muddy and untamed (Janse van Rensburg, pers.comm.) (I also use this metaphor in 4.3.2.2.3). This created a strong image in me and when I was trying to visualise the process, through which I was going in attempting to situate myself, I saw myself journeying within that moorland. As I set off, the sky was clear and I perceived the literature I had piled up in boxes as my ‘map’. However, as I began reading and reflecting, it was as if a heavy mist rolled down over the moors. What would have been a rocky, but easy route down a hillside now would have to be taken with great care, picking my way (see my reflections on the methodology in 3.4.1.). Features in the landscape changed perspective; some disappearing, some (such as the contradictions inherent in critical theory in 3.4.1.2) looming large; what appeared firm underfoot (such as paradigmatic categorisation) often gave way; no map in my hand could now be definitive, it was more a matter of sensing my way. This brought discomfort but also with the mist comes a heightening of the senses, an awareness of signs, a keenness of spirit and an afternoon walk becomes a challenge.

3.4.3 Dialectic development of methodology, theory and practice and its implications for the findings of the study

Theoretical insights occasioned by further reading of the literature informed my reflections on both the methodology of the study and the research experience; these reflections, in turn, informed the generation of theories from the data in the final stage of data analysis. The dialectical development of methodology, theory and practice through the research had become a lived experience. The following are significant examples of where reflection on theory and methodology influenced the generation of theories from the data which, in turn, had implications for practice in the RU course:

i. during the final stage of data analysis, the findings were generated and interpreted from within a reflexive orientation to environmental education and research, which focused on exploring the emergent multiple voices and multiple realities; this is reflected in the report and discussion on findings in the following chapter (see Chapter Four);

ii. as a result of my journeying to situate myself theoretically and methodologically (see 3.4.2), the tensions between the course developers in South Africa concerning the orientation of the RU course (see 4.3.3.2.3) resonated loudly; a greater understanding of this ongoing debate led to a clarification of the difficulties I had encountered in the assessment for formal accreditation of the course in Zanzibar; this, in turn, led to the development of recommendations concerning aims, orientation and assessment for future RU course development in South Africa(see 4.3.2);

iii. the tensions between critical theory, action research and critical reflection in the methodology (see 3.4.1.2 and 3.4.1.3) helped me to generate theory concerning the resolution of similar tensions experienced in the RU course within what was perceived as a theory-practice divide (see 4.4).

3.5 Conclusion

As a result of the reflections on the research methodology and process, I became aware of the dialectical development of theory, methods and results. This is reflected in the following chapter which summarises and discusses the findings of the study as informed by a reflexive orientation to research and environmental education. The findings raise issues, such as the implications of formal accreditation; aims and assessment; the integrated nature of theory and practice, and additive multilingualism, which I consider of importance and relevance to ongoing curriculum deliberations both in the SADC region and internationally.

CHAPTER FOUR

Report on findings and discussion of emergent themes

4.1 ORIENTATION TO DATA ANALYSIS AND DISCUSSION

4.1.1 Introduction

The research focus at the beginning of the research was to clarify the socio-political context for professional development in environmental education in Zanzibar and to explore the opportunities and issues for curriculum development for the non-formal, semi-distance learning Zanzibar RU course within this context. As outlined in Chapter Three, the research was informed by a post-positivist critical perspective which attempted not only to describe but to link the aspirations and needs of the environmental education officers to the systems of power and privilege within the broader societal context. Within this orientation, the findings from the second cycle of enquiry of the action research, and of the interviews with senior management, prompted a research-based process of changing the nature of the Zanzibar RU course from a non-formal to a formally accredited course. Based on this development, as well as political and economic contextual changes, the research focus for the latter part of the research shifted towards an exploration of the kind of learning and assessment appropriate for professional development in environmental education in Zanzibar and the impact that formal accreditation could have on such a learning process. Its aim was to open up these issues as a contribution to future course development in the SADC region and elsewhere.

The style of presentation for the discussion of these developments within the research is informed by a reflexive orientation to research (Janse van Rensburg, 1995b). Four themes emerged from the data analysis. Each theme is treated as separate but inter-related, around the central theme of ‘distance’. The findings and discussion of findings are placed side by side within each theme in order to highlight the dynamic interactions between method, theory and results (Robottom and Hart, 1993) experienced during the research process. The themes which emerged are discussed as follows:

4.1.2 Distances between status and learning (4.2)

The discussion of this theme is divided into two sections; the first part focuses on the period prior to the change in research focus. It summarises the findings regarding distances in perspectives on professional development in environmental education in Zanzibar, followed by a reflection on how these findings influenced the decision to attempt to formally accredit the Zanzibar RU course. The second part summarises the findings on what kind of learning is considered appropriate for professional development in environmental education in Zanzibar followed by a reflection on the opportunities and issues these findings raise for the development of a formally accredited RU/GF course.

4.1.3 Distances between aims and assessment (4.3)

This theme is inextricably linked with that of formal accreditation. It deals with the distance between the reflexive, non-quantifiable aims of the Zanzibar RU course and the formal assessment demands for fixed, measurable criteria for evaluation purposes. It summarises the findings of a literature search on assessment for distance learning courses in environmental education and of the findings of my own experience in designing an assessment scheme for the Zanzibar RU course. There follows a discussion of the kind of outcomes appropriate for assessment of the type of learning identified in theme 4.2 and the implications for future course development with regards to the aims, orientation, credit value and assessment of the RU/GF course.

4.1.4 Distances between theory and practice (4.4)

The treatment of this theme summarises the findings regarding the perceived theory-practice divide within students' expectations and experience of the RU course; this is seen by the students as one of the reasons for their lack of development in critical reflection. The discussion is based on discourse analysis. It explores ways to provide opportunities for "reflexive action" in order to come nearer to the aims of integrated theory and practice, and the opportunities and issues such an orientation has for design and learning in future course development.

4.1.5 Distances extended by text and language (4.5)

This theme continues with the exploration of reasons why the Zanzibar RU course, as it was offered, did not fully achieve the objective of encouraging students to engage in critical reflection. It summarises the findings related to the second-language English students' experiences of the style of presentation of text and the medium of instruction within the course. There follows a reflection on the potential for future course development to encourage and assess a critical orientation to knowledge-building through the use of 'open, dialogic text' and 'additive multilingualism'.

4.2 DISTANCES BETWEEN STATUS AND LEARNING

4.2.1 Introduction

The discussion of this theme is divided into two sections; the first part focuses on the period prior to the change in research focus. It summarises the findings regarding distances in perspectives on professional development in environmental education in Zanzibar, followed by a reflection on how these findings influenced the decision to attempt to formally accredit the Zanzibar RU course. The second part summarises the findings on what kind of learning is considered appropriate for professional development in environmental education in Zanzibar, followed by a reflection on the opportunities and issues these findings raise for the development of a formally accredited RU/GF course.

4.2.2 Findings on perspectives on professional development in environmental education

4.2.2.1 Introduction

During the analysis the findings fell into clusters of meaning which I have compiled under the following headings: status and professional development;

relevance of training course; salary, promotion and security; constraints to professional development. Each cluster summarises the findings on the perspectives of senior management and the students on the course. The perspectives of the RU course developers[1], where available, are included. Where the findings refer to "the students" it means that the majority responded that way. I have included individual differences of opinion where I feel they highlight the complexity or inconsistencies involved and enrich the discussion.

4.2.1.2 Status and professional development

Senior management perspectives

Senior management faced a practical manpower problem in Zanzibar (see 2.6). As a result of the low level of basic education, most staff contracted into the government departments lacked formal qualifications which meant that it was difficult to secure specialised further training for them. Such training was seen as important, especially in the new (to Zanzibar, from a technical point of view) and challenging field of environmental conservation, which needed qualified technicians (ASI)[2]. Senior management of the Department of Environment and the Commission for Natural Resources saw the upgrading of staff as a management priority (ASI , TS). One interviewee mentioned that

> the intention (was) not to inject new people with higher qualifications but to upgrade the existing staff (TS)

and that the minimum level necessary for upgrading was the Diploma level (TS). They did not want the staff "to remain just as certificate holders". The description given of the necessary qualifications for an environmental education officer highlighted this:

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[1] It should be noted that the perspectives of the course developers are those which I understood them to be at that time, mainly reflected in the Orientation notes of the course file (1995). These perspectives were changing and developing in South Africa as a result of the process-oriented orientation of the course developers and of the ongoing interactions between the participants on the course, the materials, course tutors and the developers, themselves.

[2] The coding system for the data analysis is based on the use of initials to indicate the person quoted unless the issue being discussed is of political sensitivity.

> not less than a Diploma, at least 2 years of experience, capacities for speaking English and Kiswahili, able to extend knowledge and ideas to people (TS).

Experience in the field was important but it was seen as more relevant once an individual had gained a certain level of 'knowledge' or technical understanding (see 4.2.4.2). The prioritisation of formal over non-formal education was shown when, during the first three months of the course, senior management removed six students from the RU course to send them to advanced tertiary education courses (see 3.3).

Senior management placed priority initially on status as gained through qualifications "Formal qualifications constitute good education – to the exclusion of any other indicators", Vare (1995) found in an earlier interview with senior management. A superior status was enjoyed by those with this formal education background.

> There is a tangible sense of superiority among graduated and diplomated Section Heads towards the EEU staff, none of whom have been qualified in this way (Janse van Rensburg, 1996)

Status, however, was not completely divorced from learning. There was a specific epistemological linking of status and learning:

> education was defined by section heads as "from darkness to light" (ignorance to knowledge); "the key of life" and a tool to differentiate (levels of) ignorance from low knowledge/skills to high knowledge/skills (Vare, 1995).

They perceived that different types of learning should happen at different levels and that non-formal in-service training was inferior to outside, full-time study for those staff who did not have at least a Diploma level certificate (see 4.2.4.2).

Student perspectives

All of the students below Diploma level subscribed to the view that a formal qualification was a priority consideration for them in professional development. They were dissatisfied with the fact that the training programme devised by the NADE/AWF project only included short-term training. At the beginning of the RU course they requested unanimously that every effort be made to attain formal accreditation for this course.

> There is no value for us in a certificate of attendance; it only has value for those who have many qualifications (MA);
>
> It has a value for those who already got many qualifications (MK) .

Janse van Rensburg (pers. comm., 1996) found that the importance placed on formal qualifications by senior management and the Revolutionary Government of Zanzibar undermined the EEO' confidence in implementing their work. Without recognition and credibility from the senior management, the EEOs felt unable to 'do their job better' as it depended on close collaboration in and between government sections and sectors. They all held an uncritical acceptance of the status enjoyed by the 'wasomi' (the educated) and they wanted to gain the credibility and recognition of being "experts" and "technicians" in their field like them. These perspectives did gradually change throughout the course. After six months of study, rather than aiming to be an expert, one student felt that it was "important to know what we want to be" (KM). KA decided that he wanted to become a "recognised, committed environmentalist".

One of the students was critical of the government perspective on status. He felt that senior management perceived a clear distance between status and learning. He considered that the problem with institutions was that most people were looking for an 'easy life' (*urahisi*) rather than the type of work itself. There were more incentives attached to certain positions, such as economic benefits and opportunities for travel and further study. He commented that:

> On returning from study, you can't work with your profession – you are more working with a political status or position.[3]

Contrary to the senior management opinion that working in the field had more value once one was trained, this student felt uncomfortable with what he interpreted as an elitist attitude that having higher degrees meant that you no longer had to work in the field. The students' concern for the relevance of the course (see 4.2.2.3) reflected a commitment to doing their job well, rather than a commitment to be seen to be doing the job well (Janse van Rensburg, 1995a).

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[3] I have decided that certain comments should remain anonymous if they deal with sensitive issues within the Zanzibar context.

The EEOs also needed the academic qualifications in order to enable them to apply for further study.

My perspectives and those of the RU course

The RU course, which I introduced in Zanzibar, was an open-entry, non-formal education course based on the philosophy that participation and personal and professional development were paramount. It did not originally seek nor provide formal accreditation (see 2.7.3). It was developed to explore educational thinking within environmental education practice with those who may have experience in the field, but little or no formal training (Foreword to Zanzibar RU course, 1995), enabling them to stay in the field and become better at their specific work (Janse van Rensburg, 1996).

I subscribed to this orientation as I presumed that, through an understanding of the theoretical underpinnings of their practice, the EEOs would be able to plan their work better and gain confidence and credibility in their dealings with senior management. However, as I noted in the research diary, I experienced my own enlightenment from a "false consciousness", an understanding that I too had been uncritically accepting the dominant technocratic view. The aim of the capacity building of the EEOs was to enable them to discuss programme planning on an equal basis with senior colleagues and challenge tecnicist-behaviourist assumptions about environmental education approaches. Paradoxically, the very design of the capacity-building programme was based on a modernist assumption that the EEOs needed to become '‘experts' and to have authority in their opinions, a view shared by the students. Janse van Rensburg helped to clarify this issue during one of our many discussions on training in South Africa and referred to it again in her report on the training strategy (Janse van Rensburg, 1996). I came to see that this desire to be respected as an expert also created barriers to an open approach to facilitation which could, in turn, disempower the community with whom the EEOs interacted.

4.2.2.3 Relevance of content of training course

Senior management perspectives

Senior management did place some priority on the relevance of the course. The Commission for Natural Resources felt that for the upgrading of the education officers, if there was not a Diploma in Conservation Education available, then the Diploma should have “direct relevance”; it should not, for example, be in Forestry or Extension (TS). The Director of Environment removed two of the participants from the RU course (see 3.3) to send them to a degree course in Education and Science and a degree course in the Arts. He admitted that these were not directly relevant but felt they were related and were important opportunities for the EEOs in question (ASI).

Students’ perspectives

The students were not only concerned about opportunities for advanced tertiary education but also about the relevance of that training. They regretted the fact that some EEOs were undergoing higher education which was not relevant and attributed this to the fact that courses are followed for which external funding is available rather than courses that would contribute directly to their work in environmental education. When students identified their expectations for learning in the Zanzibar RU course (see 4.2.4.2), they described them in terms of learning directly relevant to their working situation.

My own and course perspectives

> The RU course was designed to meet the needs of practitioners who cannot be away from work for extended periods of time, and who want to learn something which is relevant to their immediate work situation” (Janse van Rensburg, 1995a).

My personal perspective was that the relevance of the course was paramount.

4.2.2.4 Salary, Promotion and Security

Senior management perspectives

Part of the reason for the emphasis placed on qualifications was that salary and promotion within the government were based on these. Despite this, in neither the Department of Environment nor the Commission for Natural Resources was there a functioning Scheme of Service which laid out the academic requirements for the different posts within the institution as a basis for training programmes or promotion (TS; SARUGE, 1998). In terms of promotion, there was not a clearly indicated hierarchy of posts. In terms of security of position, movement of staff between sections and different departments depended on staffing needs. This was usually done through negotiation with the person involved but cases were known where this was not the case. Two members of senior management felt that while qualifications gave a certain security of position, other factors held sway, that this was in the hands of the government and that there was little that one could do in the case of a decision by a higher authority.

Students' perspectives

The students explained that they needed security in their positions in government departments; one student felt that it would enable him to ask for a move to the conservation education section from the extension section of his department, a request which had been previously rejected on the grounds of his lack of relevant qualifications. Several students also expressed concern at their perceived lack of security where they could be moved by senior management of the Commission for Manpower at any time whilst they had no specialised academic background. “Higher authorities appoint”, they commented and this made it difficult to think seriously about a career path (KM; MO; OA; MA).

4.2.2.5 Constraints to Professional Development

Senior management perspectives

Senior management interviewed found that, although relevance of the course was important (see 4.2.2.3), placing depended on availability of course, funding and entry-level requirements. Relevant study opportunities were limited. The majority of the students working within environmental education did not have the relevant academic entry requirements for advanced education. Senior management in the Department of Environment and the Commission for Natural Resources (both originally from the island of Pemba) promoted further education opportunities for all; nevertheless, they felt constrained by the political context in their ability to obtain equal opportunities for all.

Students' perspectives

Students felt that the greatest constraint to professional development was their low level of basic education which did not meet the entry-level requirements for further education opportunities. They were also aware and critical of the elitist discrimination in the selection of candidates for further education. They considered that further education opportunities were offered to those with ruling party affiliations – which excluded the majority of students from the island of Pemba as that was where there was the strongest concentration of opposition party supporters.

> I am thirsty of studying, as at the moment it is very difficult, and almost impossible to be offered or even allowed by the government for further studies especially when you are from the sister island (Pe...).

4.2.3 Discussion of the findings and reflection

4.2.3.1 Discussion of the findings

The implications of the "diploma disease" (Dore, 1976) for developing countries is well-documented (see 2.4) and there is some literature on the problems facing the non-formal distance learning literacy initiative in Tanzania (Cooksey, 1986; Dore, 1976). However, there is no literature on the perspectives on professional development within Zanzibar itself, which being an island setting with independent racial, political and colonial history from mainland Tanzania merits specific research and documentation. This research aimed to explore opportunities and issues for the RU course within the Zanzibar context. The first dialectical issue which the research raised was the non-formal nature of the RU course and the need for relevant formal education in the study context.

Comment on the perspectives on professional development

The findings concerning senior management perspectives highlighted the complexity of the relationship between status and learning. The data (see 4.2.2) supports the claims of Dore (1976) and Guy (1991 a, b) that, in developing countries, the prevalent view of government towards higher education was elitist. From the data, I argue that the dominant view of the Revolutionary Government of Zanzibar was based on the national development aim to create an oligarchy, an educated elite (Guy, 1991b). The political significance of this aim in Zanzibar was the maintenance of the political elite, the ruling party (see 4.2.2.5).

Guy (1991b) wrote that the emphasis on national development results in an instrumentalist view of education as learners seek credentials and qualifications to qualify for the employment opportunities (and, in Zanzibar, the political status) created by these national development policies. A superior status was attached to qualifications in Zanzibar, even if not directly relevant to their career (see 4.2.2.3). This fact reinforces Vuillamy's argument (1987) that, in many colonial countries, higher education is valued extrinsically for its ability to promote social mobility via the acquisition of examination certificates rather than intrinsically for the knowledge or understanding gained by them; it is based on centralised syllabuses and examinations rather than responsive to local community concerns.

However, the data shows that this was also a more complex issue. There was a practical management problem of a lack of staff with basic educational training in what was seen as the new technical field of environmental issues (see 4.2.2.2). Senior management showed both personal commitment to the relevant professional development of their staff and a counter-hegemonic attitude in their attempts to find educational opportunities for all. These attempts were constrained by practical and ideological factors (see 4.2.2.5). Examples of such complex situations are not mentioned in the literature. Also, in my view, by uncritically accepting a technocratic, formalist (Beebie in Guthrie, 1980) view of education as levels of quantifiable knowledge to be acquired up to diploma level (see 4.2.4.2), senior management served to perpetuate the elitist and instrumentalist view of education against which they struggled.

Contrary to my initial assumptions that the EEOs uncritically subscribed to the same viewpoint on professional development and were actively seeking whatever courses possible, the data shows that they were aware and critical of the limited choice and constraint associated with the predominant view on professional development. The EEOs felt themselves disempowered, that they had no choice in terms of what constituted professional development for them. This was highlighted by the fact that during the first three months of the course, six students left the course for other full-time study opportunities (see 3.3). They did not value the relevance of these courses and they were arranged without their prior knowledge, which shows the lack of opportunity for, and expectation of, career and work planning.

The students belonged to a government system which

i) was committed to seeking advanced tertiary education opportunities for them, relevant or not, especially for those politically affiliated to the ruling party,

ii) viewed diploma level as the minimum qualification necessary for fulfilling role of EEO, and

iii) hindered them from effective implementation of their work because the educated Section Heads saw no value in collaborating seriously with those who had little formal qualifications.

This was further complicated by the fact that the majority of the students working within environmental education did not have the relevant academic entry requirements for advanced education, thus giving grounds for the description of them as those “with the least-among-the-least” (Janse van Rensburg, 1995a).

Vulliamy (1987) argues that the effects of the diploma disease in distorting the style and content of education are far greater in developing countries because the differentials between the life-styles of the educationally successful and the unsuccessful are so much greater than in industrialised countries. The status, promotion, remuneration, security and access to further study afforded by formal qualifications in Zanzibar were both powerful incentives for and factors in the “constraints” to professional development; without these the EEOs did not see how they could ameliorate their situation nor how they could do their job well. The “choices” open to them lay not in whether or not to subscribe to the pressure to obtain formal qualifications but in the opportunities for ‘good’, relevant learning

4.2.3.2 Reflections on the decision to formally accredit the course

Issues concerning formal accreditation of the RU course

The action research component of the study showed that the students were unanimous in their request for formal accreditation of the course. Formal accreditation also emerged as a priority developmental concern in the evaluation of the South African RU course (SARUGE, 1998). There are many issues to consider with regard to a change in the nature of the RU course from a non-formal course to a formally accredited, or recognised, course.

The theoretical basis of the RU course

Would formal accreditation conflict with the theoretical basis of the course? I consider two of the course tenets which are central to this discussion: the democratisation of learning and a reflexive orientation to education.

In the study context, the RU course represented a *democratisation of learning*. By being open-entry and affordable in nature, it provided access to education for all levels. It matched the profile which Guy (1991) draws of liberating and empowering development through distance education: community-based; valuing local knowledge; basing the professional development and empowerment of individuals on taking responsibility for learning rather than on the basis of elitist views of power and wealth. He argues that the priority given to higher education perpetuates the indigenous elite instead of giving educational opportunities to the disadvantaged and disempowered. Democratisation through distance learning should imply a questioning of the focus on formal education, the basis for the oligarchical elite. Would awarding formal accreditation, therefore, threaten the democratising approach of the RU course? Would it be equivalent to trying to solve a modernist problem – a narrow, technocratic view of national development through educated elite - through a modernist solution – a focus on the ends rather than the means of education?

The RU course was based on *a reflexive orientation to education* and formed part of an epistemological-ideological trend towards recognising the value of people's existing knowledge and understanding. It aimed to develop mutually new understandings which would at times challenge and hopefully surpass the knowledge on which educational qualifications are built and in this way break away from modernist solutions to the modernist problems which had caused the environmental crisis (Janse van Rensburg, 1996). The focus of the original RU course was the means rather than the ends of education, the participation in the co-construction of knowledge (O'Donoghue in Janse van Rensburg, 1995b) rather than the creation of 'experts' with technical qualifications. The RU course has its roots in what Robottom (1987) describes as a paradigm of professional development based on 'information critique' rather than 'information technology' – which was the technocratic paradigm to which senior management subscribed. It encouraged critical reflection on what Kemmis and Cole (in Fien, 1993) termed as the three different orientations to education: the vocational/neo-classical, liberal/progressive and socially critical orientations to education. In the South African experience, evaluation indicated that interaction between the coordinators, presenters and peers was seen as a particularly valuable dimension of the course (SARUGE, 1998); as one student noted: “I learnt to write better by talking to peers and friends about the assignment …. and not by the contrived writing for marks” (Janse van Rensburg, 1995). Assessment was based on individual student development rather than the achievement of a certain grade. Was there a dichotomy, therefore, between the need for career upgrading and the type of learning relevant to developing appropriate environmental education practice?

Tensions concerning formal accreditation of the RU course

There were tensions in the decision to formally accredit the course between:

i) the concern that accreditation would serve to subjugate the RU course developers’ orientation to the dominant ideology on status and learning and thus perpetuate an elitist, technocratic, instrumentalist and vocational/neo-classical view of professional development (Robottom, 1987; Fien, 1993);

ii) the concern that students and society are likely to reject any educational innovations which do not accord with the prevalent routes to high status examination success, which Vulliamy (1987) and Dore (1976) claim has proved to be one of the major constraints on Third World attempts to promote non-formal education in developing countries; in Zanzibar there “was no value in an attendance certificate” (MA) in the socio-political context within which the EEOs were situated;

iii) the possibility that the RU course could provide an opportunity for empowerment of the students in two areas simultaneously: obtaining a formal qualification which raised their status and also exploring with them an alternative epistemological and professional development paradigm.

A language of possibility for formal accreditation of the Zanzibar RU course

The original theoretical aim of the research was to link "the aspirations and needs of environmental educators to the systems of power and privilege within the broader societal context" (Goodman in Heylings, 1995). The RU/GF course developers' orientation is influenced by critical theory. Within critical theory, there is often a language of critique and determinism which would probably say that formal accreditation of the Zanzibar RU course would serve to perpetuate the elitist view of education. It would argue, perhaps, for a more radical emancipation, enlightenment from the false consciousness concerning the need for qualifications. The discussion of Giddens' theory of structuration (Fien, 1993) is illuminating in this regard. Also from within a critical theory framework, Giddens' theory replaces the deterministic perspective with a "language of possibility" where environmental educationalists are capable of acting out educational and environmental beliefs *within* their socio-political context. It provides a theoretical framework which could respond to the dialectic discussed above. As Guy argued (1991), successful distance learning strategies need to be sensitive to local contexts and take into account client aspirations because of the diversity of contexts and the problematic nature of distance education in the developing world.

In Zanzibar, the research had the potential to effect social change by enabling the students to access both a relevant formal qualification and a learning opportunity which was relevant to their specific working environment; the RU course could promote a different orientation to learning within formal education, challenging the dominant paradigm from within. Its reflexive orientation (Giddens in Huckle, 1995) recognised the need for social action which would appreciate the complexity of the socio-political situation and the needs and aspirations of the EEOs; it did not reduce the explanations of human behaviour and attitude to the dualism of individual agency or social structure (Fien, 1993) which would have led to a choice of either/or for formal accreditation. Together with the external moderator of the RU course in

Zanzibar, the decision was taken to attempt to formally accredit the course. The important questions for the research were now:

i) what was considered appropriate learning for professional development in environmental education in Zanzibar;
ii) how this learning should take place, and
iii) whether formal accreditation would change the nature of this learning.

4.2.4 Findings on appropriate learning for a semi-distance learning course

4.2.4.1 Introduction

The findings of the data are grouped into two clusters of meaning looking at what kind of learning is seen as appropriate for professional development and how that learning should take place. Apart from the "my own and course developers' perspectives" sections which represent ongoing reflections, the findings are divided into two rough periods "initially" and "later in course" to show developments in perspectives through the course. These findings were marked by action research events which took place at different stages of the course. A discussion then follows on whether formal accreditation would change the nature of such learning.

4.2.4.2 Appropriate learning for professional development

Senior management perspectives

Initially. Senior management perceived that learning appropriate for professional development was more effective after a specified stage of basic formal education. They differentiated the type of learning which takes place up to and then after Diploma level. They held the view that learners at the students' level were vessels to be filled with quantifiable knowledge, to gain a "technical knowledge base"(ASI), and that most full-time advanced courses would fulfil this role. Critical analysis was only possible and creditable once the staff had gained this level of formal education. There was a paradox between this view of education of pre-Diploma learners and the belief that, as a result of this formalist education, the analytical and critical capacity of the learner would be raised. A "diploma holder is better able to analyse due to the formal education background, he can grasp things better"(TS).

Later in course: Senior management was pleased that formal accreditation had been awarded to the course; however, when probed, they placed no real value on the critically reflective nature of the course at this level of academic study (ASI, TS).

Students' perspectives

Initially. The students said that they did not share the senior management view that this training would raise them to a certain level of knowledge to prepare them for 'real' training. Contrary to senior management's view of knowledge, they saw the course outcomes as consisting not only of facts but also of knowing what questions to ask and of being able to challenge existing understandings. However, certain inconsistencies were revealed in the students' orientation. For example, when one student was explaining his view of environmental education, he declared that:

> education is the level of knowing something. When somebody increase his/her level of knowing such thing compared to the others, we can say that his/her education is higher than the others (Pre-course assignment, NA).

All of the students who wrote down their expectations for learning in this course described them in terms of learning directly relevant to their working situation which included the following (see also fig. 4):

> Learn more theory, techniques and practical skills to solve problems;
> Share ideas with others;
> Know more about the environment;
> Know about environmental issues which affect Zanzibar;
> To study, develop and use learning in workplace;
> Know ideas behind practice;
> Get practical experience in testing methods;
> Learn techniques for community participation;
> Exposure to international development approaches and how to develop locally;

The students' initial perceptions of what type of learning was appropriate to professional development in environmental education were linked to the kind of status to which they aspired i.e. expertise (see 4.2.2.2). This is why seven of them identified appropriate learning as "knowledge" about environmental issues. They wanted ‘how to do’ skills and techniques for “dealing with people”, to enable them to “consult and advise” and “to communicate easily and enable (people) to understand well the environmental education rendered to them”. In analysing the desire to “know”, it is important to remember that out of the twelve students who completed the course, five students had not received any formal training or education in environmental issues or education, being school-leavers whose curriculum did not include the ‘environment’.

Later in course. Students indicated that they valued the critical discussions of current educational theory including the conventional communications-oriented approach for which several had wanted the ‘recipe’, the social construction of knowledge and theory and its openness to change. Janse van Rensburg (1996) saw in the interactions between myself and the students an approach to environmental education that involved “interactive, collaborative, open-ended and responsive processes of change”. In their final evaluation only one student said that he had learned “how to” do environmental education; the majority had gained knowledge and they expressed this as ‘knowing more’ about environmental issues and educational approaches. One said that this could be achieved by learning through different approaches and making one’s own decision as to the relevance of an approach “rather than learning intensively one approach” (KA). They did not call themselves experts nor cite this as an unfulfilled expectation. The following examples describe what learning had taken place for them during the course and how it had helped them professionally:

> understanding better on the environment, local and international strategies in protecting environment and to relate and compare with my working programme, such as looking at the four dimensions (of the environment) before preparing conservation strategies or educational programmes” (WE8)[4]
>
> “I know what I want to do, why I want to do, how” (WE6)
>
> “I learnt things which I use in my work like approach to cooperate with society with a different attitude” (WE5);

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[4] This data forms an exception to the coding system used throughout the research. It comes from an exercise where I asked the students to fill in a written evaluation form, anonymously. Hence the numbered coding system rather than the intials of the person quoted.

> “it helped me know different approaches which can be used in Zanzibar to help people understand about environmental education and other types of education” (WE2);
> “challenging with my colleagues on environmental matters” (WE8)

An indicator that the learning promoted by the course was seen as appropriate by the students is revealed by the quotation from Eureta Janse van Rensburg’s evaluation (1995a):

> it was very noticeable that students wished to remain involved with the course, through study tours, as future tutors or guest presenters and on more advanced courses through the university. They clearly saw themselves benefiting professionally from their involvement in the course.

My own and course developers’ perspective

My own perspectives on what constituted learning for professional development in environmental education were evolving throughout the tutoring of the course and the ongoing research. The course orientation as experienced by the students was obviously influenced by my own learning and theoretical orientation. I saw it as

> a course which, whilst maintaining a high level of critical thinking on current environmental education practices, is able to be responsive to the needs of individual learners” (Study trip report, 1995).

By the end of the course, I identified myself with the course developers’ reflexive approach to environmental education (see 4.2.3.2). What was new and challenging to me (research diary) was Docherty’s (1993) view of knowledge and theory:

> Not only has knowledge become uncertain, but more importantly the whole question of how to legitimise certain forms of knowledge and certain contents of knowledge is firmly on the agenda: no single satisfactory mode of epistemological legitimation is available.

The RU course developer’s orientation involved rethinking modernity (Janse van Rensburg, 1995a) and a growing awareness of the uncertainties facing modern societies, the ‘de-learning’ necessary rather than the learning. Beck (1992) called for a pedagogy which would help learners to deal with uncertainty, what he called ‘the essential qualification’. Janse van Rensburg (1995a:1) emphasised the need for the RU course to support learners to deal with the demystification and reconstruction of much of the conventional wisdom in education; to “neither cling to the wreckage of outdated grand narratives nor to drown in the sea of relativism and uncertainty”. At the beginning of the course, the students were seeking security and knowledge (see 4.2.4.2). I questioned whether we could “help them to cope with complexity and chaos, at the same time as helping them to struggle with the socio-political context around them” (research diary). I felt that the aim of the Zanzibar RU course should be to help the students become prepared for uncertainty and change. It should not leave them uncertain nor paralysed, nor build them up with the certainty of experts but encourage them towards being informed, enquiring practitioners.

4.2.4.3 How that learning should take place

Senior management perspectives

Initially. The disadvantages of a distance learning course were that it could “overload” the students. It also took time away from their work in the field.
Later in course. Senior management felt unable to comment on the value of the learning in the course; they felt they did not have enough information or orientation to the course.

Students’ perspectives

Initially. Several students requested more explicit course progression and structure, a timetable to help them in forward planning of their work and studies. In Pemba island the students developed two study groups who met between tutorials to support each other’s learning. They requested more tutorials in order for them to discuss course materials and issues. They requested written materials relevant to the Zanzibar situation. There was a difference in opinion over the medium of instruction for the course (see 4.5.2.3).
Later in course. Students indicated that there should be more assignment presentations as they “learnt from each others’ assignments” (MK) and they

also developed skills in presentation and self-expression. The learning was relevant because it was focused on local problems not “outside problems” (MA). There was a need “to test methods in the field”(KM); they recommended field visits, as the ones which took place locally were very useful to their understanding (KA). They had come to a better understanding of the ideas behind practice as a result of “the literature and practical research”. However, there was a need for more skills practice (see 4.2.4.2). They valued the time set aside for meeting the tutor and the other students. The students in Pemba felt more time was needed with the tutor, especially in assignment drafting. There was a need to involve other resource people in the course. Although three students felt that work was not interrupted by study, two students felt that there was not enough time to study. One student felt that there was an “unfamiliarity” with the approach of distance learning (NA). Another student felt that “we are not serious with this way of learning; if we were serious, this course would be very, very relevant” (MK). In this comment, he referred to the semi-distance learning nature of the course, where responsibility for what learning took place rested on the students themselves.

My own and course perspectives

The RU course, which I introduced in Zanzibar, was based around an “open-ended file” and aimed at being ‘participatory’ in nature and in curriculum design. Students were responsible for making the learning happen. Assignments were part of existing work in environmental education and colleagues comments were viewed as feedback rather than judgement. The assignments were a combination of written papers, visual presentations and verbal presentations.

Some of the adaptations to the course in Zanzibar included “removing the distance between curriculum and practice” (research diary) by rooting all stages of the course in the local context through materials, practical exercises and assignments which were developed together with the students. The medium of instruction was English and I grappled with the issues and tensions which this raised, especially with regard to the development of students’ capacity for written expression of their critical reflection (see 4.5.2.2*)*. The number of tutorials was increased on student request and this provided an opportunity to remove distance between learner/ learner as well as learner/tutor.

> Ownership of new ideas and approaches came through group discussion and commitment, students were not isolated in unfamiliar territory. They refined and challenged their ideas through group discussions (research diary).

The study-groups, tutorials and workshops formed a support network which also helped remove the 'distance between current practice and innovative training'. As can be seen from Chapter Two, the Zanzibar RU course presented a very different form of professional development from that expected by senior management or the EEOs. Chapter Two also identifies a different theoretical orientation underpinning current EEO practice compared to the RU/GF course developers' orientation. Critical reflection on practice was not an approach which had been used for professional development prior to the Zanzibar RU course. The long-distance nature of the course meant there could be ongoing development over time which allowed for reflection and review (see 4.4.3.4). The study groups and tutorials, which involved mixed groups of students from the Departments of Environment, Fisheries and Forestry, created spaces for that critical reflection. The curriculum was not negotiated, however, the students took part in its ongoing evaluation and modifications and made curriculum recommendations for future courses (KA).

During the data analysis I realised that there had also existed a distance between the tutor and the ongoing process orientation to course development in South Africa. Although the course promoted critical reflection, I was unaware of how such reflection shaped ongoing dynamic course development. My participation in this ongoing reflection would have helped my own personal and professional development.

4.2.5 Reflection on diminishing distances between status and learning

4.2.5.1 Introduction

Initial findings from the research showed that there was *a distance between the perspectives on status and learning* on the part of senior management, students, course developers and myself. The findings also reveal the different epistemological views of knowledge and learning, as held by senior management, students, myself and the course developers (see 4.2.4.2). This section reflects on the perceived dichotomy between the need for career upgrading and the type of learning considered relevant to developing appropriate environmental education practice. It asks whether it is possible to diminish the perceived distances between status and learning in a formally accredited RU course and the opportunities and issues these raise for the nature and orientation of future RU courses.

4.2.5.2 Status and learning

Initially, the greatest distance which existed was between the aims of professional development as perceived by the RU/GF course developers, the students and senior management (see 4.2.4.2). Students and senior management wanted technical knowledge which would enable them to be experts in their field. Fien *et al.* (1992) argue that the root causes of the modern environmental crisis are located in both the modernist nature of current social, economic and political systems and the worldviews, institutions and lifestyles that support them. Therefore, solving environmental problems requires a wider response than the training of skilled environmental managers or teachers of ecology to reproduce the systems. Robottom (1987) explains these tensions within the framework of two paradigms on professional development: information consumption versus information critique (see also 4.2.5.3). In Zanzibar, the students' aims to become experts did change during the course and, by the end of the course, they aligned themselves more with the course aims. In the final evaluation not a single student expressed frustration at not becoming an "expert". This is likely to indicate that a re-assessment of their own ideology concerning status and learning had occurred.

They now placed value on the kind of personal and professional development which had taken place. This was not affected by the formal accreditation of the course. Two students felt that accreditation had further served to give credibility to the orientation of the course in the eyes of their colleagues and senior management (KA, SK).

4.2.5.3 Learning appropriate for professional development in environmental education

Robottom (1987), Guy (1991) and Evans and Nations (1989) have written extensively on the need for an alternative paradigm to professional development for adult learners. In 1987, Robottom made recommendations for a paradigm of information critique rather than one of information technology. The original RU course design reflects the ideology of such an orientation. As a result of course developers' ongoing reflection, course development now has a reflexive, process orientation (see 4.2.3.2). However, there is little literature available on the perspectives of students and society on the appropriateness of the learning proposed by either a socially critical or a reflexive orientation in terms of their expectations for professional development in environmental education (see Fien and Rawling, 1996; Janse van Rensburg, 1995a; SARUGE, 1998; for discussions of student experiences). I use the five principles for professional development in environmental education proposed by Robottom (1987) as a framework for reflection on this question and also as a basis for exploring how perhaps these principles need to be adapted in order to encompass a reflexive orientation within formal accreditation. The principles are:

4.2.5.3.1 Professional development in environmental education should be enquiry-based

Robottom argues that professional development activities in environmental education should encourage participants at all levels to adopt a research stance to their own environmental education practice and see it as open to improvement through participant research. This contrasts sharply with the senior government perspective concerning the stages of learning (see 4.2.4.2).

It also contrasts with the ‘how-to-do environmental education’ formulaic style, initially requested by the EEOs (see 4.4.2.3). Students in the Zanzibar course valued the participatory presentation and discussion of their assignments as they found that they learned from the discussion and each other’s research. They felt that they had learned to study, develop and use their learning in the workplace through “practical research” (see F1.3 in fig.1). The data shows that, as a result of their enquiry-based assignments, many students had considered different approaches to their practice in the field. There were no claims by the students that this was not an appropriate form of learning; rather the experience of researching, reporting and presenting was one of the areas in which they felt they had developed the most and which helped them directly in their everyday work.

4.2.5.3.2 Professional development in environmental education should be participatory and practice-based

Robottom contends that environmental education practices are shaped by the theories of the practitioners themselves, and by the theories of others built into the structures and relationships of the institutions within which practitioners work. The practitioners, thus, need to work through the relationships of theory and practice. The findings from the Zanzibar study show that there were tensions between personal beliefs and professional practice which were still being resolved (see 4.4.2.2); Janse van Rensburg (1996) referred to these as ‘tensions of transformation’.

Students expressed expectations concerning learning practical skills and found this lacking in the course. This would suggest that they did not agree with the course limiting itself to reflecting on ‘why we do what we do’ and wanted some ‘how to do’, too. It can be argued that the students had a more complex understanding of theory and practice and were more demanding of the course orientation (see 4.4.2.3). The perceived distance between theory and practice – and how that is expressed and understood – is an important issue for future course development and assessment for formal accreditation; it is discussed in detail in section 4.4.

4.2.5.3.3 Professional development in environmental education should be critical

Robottom argues that it is through processes of enlightenment about the values informing and justifying environmental education policies, organisation and practices that changes in these registers is made possible. Practitioners come to an understanding of their field through their critical enquiries and develop their own theories about environment and education. A critical approach aims to be critical, liberating and empowering.

I found myself grappling with my own understanding of the term ‘critical’ throughout my reflection on the data analysis. In this way, I learned that understandings about methodology, theory and practice do develop dialectically through the research (Janse van Rensburg, 1995b; Robottom and Hart, 1993). I came to understand the differences between a critical theory orientation and a reflexive orientation to environmental education. Being critical for Robottom (1987), Fien and Rawling (1996) and Plant (1997) meant liberation, enlightenment and radical transformation. The RU course was influenced by critical theory but questioned fixed ideals and opened all ideology, even its own, to reflection and review. In order to reflect this difference, my analysis of the data, therefore, was based on whether *professional development in environmental education should be critically reflective* rather than critical.

Guy (1991) questioned whether this form of critical education would receive support given the ideology and vested interest of the indigenous elite in reinforcing and maintaining the existing social, political and economic relationships (see 4.2.2.5). There was no resistance amongst the students to the concept of critical reflection. They wanted to know about the ideas behind practice. Senior management’s attitude (see 4.2.4.2), however, reflected that of Beeby (in Guthrie 1980). In a model for stages of learning, Beeby differentiated between the “formalist” stage – where students were “ill-educated” and were trained in the “one best way” with an emphasis on memory – and the stage of "meaning" where the students were "well-educated" and the emphasis was on meaning and understanding, problem-solving and creativity; individual differences were catered for. The students of the Zanzibar course had very low levels of basic education (see Appendix 1), however, they all had at least two years' experience of working in the field. They did not agree with the senior management view. They enjoyed the critical discussions, found them "rich" and helpful in their everyday work as they developed their skills for argument and presentation. One student found that he was better able to challenge colleagues' views on environmental issues. His aim through professional development was to reach a position where he could influence educational policy (KA). He found that the course

> has shown a development in people's critical ability – it is better than spoon-feeding or rote-learning (KA).

Interestingly, he was the only student to refer directly to critical reflection. In their evaluations none of the others referred to themselves explicitly as critically reflective despite it being one of the course objectives. They did, however, identify the need to "study, develop and use learning in the workplace" (see 4.4.2.3) which implied an understanding of the need for critical reflection. Janse van Rensburg concluded that

> the "particular orientation to education promoted by the (tutor) and (at least in theory) by the (EEOs) …. challenges many of the logical-positivist and empirical-analytical and behaviourist assumptions which underpin traditional Western-originated sciences (1996).

There were many challenges encountered in promoting critical reflection with second-language learners from a formalist background to education. These are discussed in section 4.5. My concern about 'teaching for uncertainty' (see 4.2.4.2) still needs further reflection. The findings do not reveal that the students found themselves lost or uncertain; at the level of discussion they readily accepted the notion of the social construction of meaning and that the approaches being promoted currently were also open to change. However, I feel that the lack of data to illuminate on this issue shows that perhaps I was a little too wary in my own approach and protected the students from an

exposure to such uncertainty. Yet, the students did become more enquiring practitioners; they did not question nor show concern at the challenge to the legitimisation of all forms of knowledge, as described by Docherty (1993). When I questioned them about this, one student explained by referring to the Koran which, within the Muslim context, represented both the existence of a universal knowledge and a knowledge which was “open to interpretation” (AS). AS felt that there was much to learn from its explanation. He did not feel that this undermined a critically reflective approach as he said that the Koran was open to interpretation and was a catalyst for discussion and reflection. A recommendation from the Zanzibar students for future course development was that it should include research on the Koran’s view of environmental management and man’s role.
These findings show that it was possible to promote alternative paradigms or education and learning within a formally accredited course, although there is little data to reveal the reaction of senior government to the changes wrought by the course. Section 4.3.2.6.1 discusses the issues concerning formal assessment of critical reflection.

4.2.5.3.4 Professional development should be community-based

Robottom (1987) contends that environmental issues are specific to each context as are the educational problems and challenges, therefore, professional development should be community-based and context-specific. Guy (1991) reports that community-based education, drawing on the ideas of participatory research, depends on the participation of people, who through participatory planning and action, develop a deeper understanding of their lives and the structures which surround them. I made adaptations of the RU/GF course materials in order to root the issues in the local context (see 4.5.1.5.1 and Appendix 2). The findings of this research show that the Zanzibar students found the course relevant to their situation. They valued the focus on “local” rather than “outside” problems.

Community-based education calls into question standardised and centrally produced teaching materials and curriculum development (Guy 1991). The

RU/GF course curriculum is based on an open-ended file and encourages local development of materials within the broad framework of its focus and as a final course assignment. The Zanzibar RU curriculum was not negotiated but was constantly evaluated with the students which helped my work as tutor and provided recommendations for future courses. Those students who expressed an opinion on this issue felt that there was a need for more structure or timetabling of the course – this was both a need for the greater picture and to understand the links between the different sections and it was also a need for forward planning so that they could arrange their study, work and home time. There was a tension at times between my development of the course as we went along (seeing whether issues were understood, what local examples could be used, whether more information or exercises were needed) and the desire for preset timetabling (see research diary). The students also requested more structure to the file so that they felt more "guided" through it. They felt that this did not challenge its open-ended nature but made it more "accessible" (MK). This need was also articulated in the South African course at the same time and was followed up, so that the course structure is far clearer at this time - and tutors are introduced to this structure in a pre-course tutors' workshop (Janse van Rensburg, pers. comm., 1998). However, I refer to the SARUGE report (1998) for the discussion on the tensions involved in moving towards a pre-specified curriculum and text prepared centrally as opposed to the more flexible, locally-developed original course file.

4.2.5.3.5 Professional development in environmental education should be collaborative

Robottom (1997) argues that collaborative work is necessary in order to provide support to practitioners from colleagues who may recognise instances of false consciousness and also to encourage collective rather than individual action when political forces are acting against improvement. From a reflexive orientation which questions the fixed ideal of enlightenment, I argue that professional development should be collaborative but that the reason for this be a little different. The long-term nature of the course and the regular tutorials allowed for the revisiting of issues and ideas, what Beeby (in Guthrie

1980) called evolutionary rather than revolutionary change. It also supports his assertion that unless continued support is given to changes, which may be in “small and diverse ways”, (Orientation notes, 1995), their effect is likely to be short-term.

Fien and Rawling (1996) stress the need for support groups for reflective practitioners in order to discuss ideas and problems experienced in the field. The Zanzibar study shows that the distances between learner-learner, between learner-tutor and between current practice-innovative training were diminished by the face-to-face tutorials, study-groups, workshops, field visits and interactive learning materials. The students valued such an experience during the course and the forum for discussion, between the different departments all working in the field in conservation education, continued after the life of the course (Khamis Ali and Nassor Ali pers comm, 1997).

Guy (1991) finds that community-based education has a group orientation rather than an individual orientation. One of my concerns in the formal accreditation of the course was that it may affect the participatory nature of the course with a more competitive striving for marks. Guy (1991) argues that learners in developing countries are cooperative whereas students from Western countries are competitive. In Zanzibar, the students’ study-groups served as support groups. We often held meetings between myself as tutor and two to three students discussing their assignments. The formal accreditation did not serve to change this relationship; it seemed to motivate them to support each other further. Section 4.3 discusses how formal assessment serves to strengthen rather than threaten the collaborative approach. It is interesting to note here that the study-groups were stronger on Pemba Island than on Unguja Island. I feel that this too relates to the political constraints facing Pemban students (see 4.2.2.5) who then worked collectively to struggle against these constraints.

4.2.5.3.6 Professional development in environmental education should be interactive and dialogic

From the findings, I propose that another principle could be usefully added to the five principles discussed above. This would be that *professional development in environmental education should be interactive and dialogic*. This principle supports the critically reflective principle (see 4.2.5.3.3). The spatial and temporal separation of tutors and students, together with a file which is so open-ended, can close students' discourse and perpetuate a top-down approach to learning. "Dialogic" distance education materials are claimed to lessen the tension between wanting to develop students' capacity for critical reflection and the tendency to subjugate them by text and distance (Evans and Nations 1989). The issues concerning the use of open, dialogic text and interactive exercises are discussed in sections 4.5.5.2.

4.2.5 Diminishing distances between status and learning

This discussion and the results of the final evaluation of the RU course with the course participants showed me that it is possible to close the distances between the dominant government view on status and learning and those of the students and the course; that the international developments in learning considered appropriate for professional development was to a large degree considered appropriate by the students in Zanzibar and did contribute to their professional development both in the everyday workplace and in their career; and that awarding formal accreditation for the course did not in itself change the nature of the learning in the course.

4.3 DISTANCES BETWEEN AIMS AND ASSESSMENT

4.3.1 Introduction

This theme is inextricably linked with that of formal accreditation. It deals with the distance between the reflexive, non-quantifiable aims of the Zanzibar RU course and the formal assessment demands for fixed, measurable criteria for evaluation purposes. It summarises the findings of a literature search on assessment for distance learning courses in environmental education and of the findings of my own experience in designing an assessment scheme for the Zanzibar RU course. There follows a discussion of the kind of outcomes appropriate for assessment of the type of learning identified in theme 4.2 and the implications for future course development with regards to the aims, orientation, credit value and assessment of the RU/GF course.

4.3.2 The Zanzibar RU course assessment story

4.3.2.1 Introduction

The following summary of my experience in designing an assessment scheme for the Zanzibar RU course is written as a case-study report, telling the story as it unfolded over time (Elliott, 1991: 88), followed by detailed descriptions of the significant 'events'of the story. These findings come from the piece of action research which involved myself as practitioner/researcher investigating my own practice as a tutor of the RU course (Heylings, 1995).

4.3.2.2 The process

In December 1994, I paid my first visit to Jim Taylor and Eureta Janse van Rensburg in South Africa to explore the potential for offering the RU course in Zanzibar. Although the RU course at that point did not offer formal accreditation, this was discussed as a possibility with course developers and the Dean of Education at Rhodes University (pers. comm,1994). As accreditation was a concern (see 2.6.3), the issue of assessment was raised. One of the conclusions of the study tour was that a founder member of the RU course visit Zanzibar during the course to "discuss support, tracking and assessment of individual students in terms of final accreditation" (Heylings, 1994).

Once the course started, in February 1995, there was little time or opportunity for discussion and design of assessment procedures nor was it clear whether formal accreditation could be obtained. To qualify for the certificate of attendance from Rhodes University, students were merely required to attend all workshops and complete the assignments. The Orientation notes (1995) indicated that the Regional Coordinators would also make an "assessment of participants' involvement in the course, for certification purposes" and that the student's file would be used as an "indication" of such involvement during the year. However, at this time, in mid-1995, there were no established criteria or guidelines for assessment of the student file.

Throughout the Zanzibar RU course, I experimented with different types of informal assessment, (see 4.3.1.2) in order to provide indicators for myself of :

i) the levels of understanding and critical reflection on the part of the students,
ii) the accessibility and appropriateness of the presentation of the course, and
iii) the need to review or adapt materials.

However, I did not design a structured monitoring or assessment programme, nor did I keep a written profile on each of the students for the purposes of accreditation.

In September 1996, following the decision of Rhodes University to formally recognise the RU/GF course (see 3.3), the students requested that I negotiate with the Zanzibar Government for recognition of the Zanzibar RU course as equivalent to a formal qualification. I held a series of three very positive meetings with the Director for the Commission of Manpower in Zanzibar. Requirements for recognition of a formal qualification included the following:

* A minimum of 9 months' study;
* Certification from an accrediting institution;
* Description of the knowledge and skills learned during the course;
* Summative, quantitative assessment of the level achieved by the individual student (research diary).

The National Qualifications Framework for South Africa (NQF) seemed, at that time, to be the most appropriate qualifications framework for an innovative, reflexive course (see 4.3.3.2.3). The NQF was based on a social constructivist and outcomes-based orientation to education (Van Harmelen, pers. comm., 1997). As a result, I decided to base the assessment on outcomes rather than objectives (see 4.3.3.3). These outcomes had to be defined in relation to the course aims and orientation (see 4.3.3.2.3 and 4.3.3.2.4) and I then had to devise retrospective assessment strategies for each outcome, based on the information gathered from the written assignments and the ongoing informal assessment which had taken place (see 4.3.2.3). As the assessment was retrospective, it did not affect the learning process. However, fulfillment of these requirements highlighted the challenges that face formal summative assessment of the RU course (see 4.3.2.6.1). This experience raised many questions for future course development about appropriate forms of assessment for a semi-distance learning course with a reflexive orientation towards environmental education, including questions on the assessment of second-language English speakers in English alone (see 4.5).

The draft statement of results was sent to the external moderator, together with a range statement for the final mark. The moderator considered that the statement of results was “thorough and mindful of the original course orientation” and suggested modifications only to the summative narrative mark. The credit value of the certificate was not defined (see 4.3.2.8). The Statement of Results written on Rhodes University letterhead, together with a copy of the Certificate from Rhodes University (see Appendix 3), was recognised by the Commission for Manpower in Zanzibar as a formal qualification at the level of Certificate (see 4.3.3.5.2) in October 1996. This meant an increase of between 2-3 salary points per student depending on their grade and their previous academic qualifications (Khamis Abdulla, pers comm., 1999).

The following section details some of the developments mentioned within the process of developing an assessment scheme for the Zanzibar RU course.

4.3.2.3 Ongoing informal assessment of the Zanzibar RU course

For the reasons mentioned in 4.3.1.1, I experimented with the following forms of informal monitoring of the students’ progress, both individually and as a group :

i) interactive exercises

ii) assignment drafting
iii) peer evaluation of practical presentations
iv) contextualising information and concepts
v) participation in tutorials and workshops

These activities provided important sources of information for the final summative assessment of the students. There is not space to explore these findings within the framework of this thesis. However, I would emphasise that the development of appropriate forms of ongoing formative assessment, i.e. ways of gathering information in order to improve the current educational process, is an issue which merits further investigation.

4.3.2.4 Challenges facing assessment of the Zanzibar RU course

It became clear that, when considering whether the Zanzibar RU course should be formally accredited, it was important to analyse the issues which assessment raised for the pedagogical orientation of such a course. Traditionally, assessment was based on objectives and performance criteria against which competence was measured. Many challenges faced the development of procedures for a summative assessment for the Zanzibar RU course in 1996 :

- the lack of criteria for accreditation of the course beyond attendance at workshops and completion of assignments. These did not provide sufficient basis for a final summative statement of results which showed what learning had taken place nor a quantative assessment of individual student performance;
- the lack of guidelines for assessment;
- the measurability of the stated aim of the course, to “help you to do it better to make it better” (Foreword to course file, 1995);
- the lack of explicit objectives or outcomes against which to measure performance;
- the challenge to reflect in the assessment criteria the orientation of the course developers and the learning process involved (see 4.3.3.2);
- the challenge to maintain the focus on individual student’s growth as opposed to their achievement of a certain grade (see 4.3.3.3.2);

- the challenge to maintain the participatory and collaborative orientation to the course as opposed to promoting an individualistic, competitive environment;
- the fact that this was retrospective assessment, deciding what to assess after the event;
- the lack of quantitative marks given for the moderation of assignments by the external moderator; quantative marking was given only for the final assignment (once we knew that a formal qualification was a possibility); other assignments were given narrative summative comments;
- the lack of explicit criteria as a basis for the external moderation of assignments;
- the issue of tutor intervention in the assignment drafting process; in order to prioritise the assessment of concepts and growth in critical reflection demonstrated in the assignment above the *form of expression* of these same ideas, there had been a high level of intervention in the written form for some students (see 4.5.1.4). I had not kept a record of such interventions in order to see whether they should affect the level of moderation between one student who had needed them and another who wrote better Engish and therefore did not;
- the lack of individual student profiles for assessment; the continuous assessment had been so informal that it was not logged in a way which provided an organised profile of marks and comments which could be added up easily for a summative assessment;
- the lack of negotiation of performance assessment methodology with students;
- the time constraint for discussions with course coordinator and course developers; there was only one month in which to prepare the statement of results before my departure from Zanzibar.

4.3.2.5 The National Qualifications Framework of South Africa

A possible qualifications framework

In August 1996, I discussed with Ursula van Harmelen of Rhodes University the restructuring of a teacher's education course based on the new National

Qualifications Framework (NQF) for South Africa. The Eastern Cape Teachers Education Course was adapted from the ‘standard’ Gold Fields file (SARUGE, 1998) and Ursula was looking at the issue of formal accreditation for this semi-distance, flexible learning course. I found the discussion very useful because the NQF seemed to open up possibilities for formal accreditation for a socially critical or reflexive environmental education course by Rhodes University or any other accrediting institution in South Africa.

A paradigm shift in curriculum design

In its draft document of July 1996, the NCDC identified the principles which should inform curriculum design as learner-centredness and a rejection of the traditional rigid division between “academic and applied knowledge, theory and practice, knowledge and skills, head and hand” (12), differentiation among different learners’ pace and abilities and critical and creative thinking. The NCDC, who were developing the NQF, therefore, supported explicitly two of the five key ideas underpinning the orientation to the RU course:

- the social construction of meaning and
- the inseparable interactions of theory and practice (Orientation notes, 1995).

I felt that it would be possible to reflect the learning processes of the RU certificate within this framework. I also assumed that formal accreditation of the RU certificate in South Africa would imply incorporation within the NQF and that this exercise could, therefore, also contribute to the development of assessment procedures for the course within SA and elsewhere.

4.3.2.6 Outcomes-based learning

A commitment to outcomes-based learning was central to the educational framework being proposed for the NQF (NCDC, 1996). Outcomes focus on the intended results of learning in terms of demonstrable knoweldge, applied skills, values and competences, rather than the prescription of content to be learnt (NCDC, 1996). They are process- rather than product-based; they are competency-based rather than content-based. The draft NQF document says that the focus on outcomes encourages the development of flexible, relevant learning programmes. I felt that this was appropriate to the approach of the RU course and I decided to base the assessment of the Zanzibar RU course on outcomes, rather than the ‘traditional’ model of objectives.

4.3.2.6.1 Challenges in choosing outcomes

Within the NQF, outcomes were seen as being of two kinds, essential outcomes and specific outcomes. Essential outcomes were generic and cross-curricular:

> they underpin the learning process in all its facets. They are not restricted to any specific learning context, but they inform the formulation of specific outcomes in individual areas of learning (NCDC, 1996:17).

As there were no stated objectives or outcomes for the RU course, I felt that the logical thing to do would be to break down the stated aim into outcomes which could capture its essence and constituent elements. However, I became concerned about both the meaning and the measurability of the stated aim, “to help you to do it better to make it better”; who was judging what was ‘better’, based on what? I also reflected on the fact that the students felt that the practical side of the course, the ‘doing’ was actually lacking (see 4.4.2.3). I drew therefore on the description of the course as the basis for choosing the outcomes:

> we want to come, with course participants, to a better understanding of the ideas behind various practices in environmental education, old and new. By becoming better informed of environmental education practice in general and better equipped to reflect on own practice, participants should be able to develop better ways of doing environmental education (Foreword, 1995).

To reflect the learning process and the challenge which the course brought, I wanted to add “equipped to reflect on *and justify* own practice” (see 4.5 for discussion of ability to express ideas).

I identified five of the NQF essential outcomes for they represented what I felt to be the fundamental elements of the learning process in the RU course : critical reflection, praxis, communication skills, participation and independent learning. I wanted to demonstrate that the RU course could be accredited according to the NQF. However, I faced a problem. According to the draft NQF (NCDC, 1996), it is the specific outcomes which serve as the basis for assessing the progress of learners:

> Specific outcomes, together with assessment guidelines, range statements, credit value ….are part of the definition of unit standards….a credit for a unit standard is the recognition of the achievement of specific outcomes. These are the building blocks which make up qualifications.

I felt that I did not have sufficient information to create specific outcomes and that this was an area needing analysis and discussion, perhaps a participatory research programme coordinated by the course developers (research diary). I decided to adapt the essential outcomes by making them more context-specific, and thus produce a form of specific outcomes. The final outcomes chosen for the summative assessment were a combination of the original course assessment requirements and five of the essential outcomes from the NQF (see fig. 2). Although these reflected the most important aspects of the course orientation at that time, I felt that ongoing discussion about the aims of the course would need to guide the development of more appropriate outcomes.

Fig.2 Outcomes chosen for the final summative assessment of the RU course, and their derivations.

Column A lists the outcomes which I finally chose for the summative assessment. Column B explains the derivations of these outcomes. The emphasis in italics is to highlight where any changes were made between the original draft NQF outcomes and those used for the summative assessment.

5.1 OUTCOME	DERIVATION
1) Completion of written assignments.	Original RU course requirement.
2) Ability to communicate effectively across a range of contexts *using visual and language skills (including listening skills).*	Essential outcome from draft NQF document (NCDC): “the ability to communicate effectively across a rantge of contexts using visual, mathematical and language skills”.

3) *Demonstration of development in* ability to *critically reflect* on links between mental conceptions of knowledge and *environmental education approaches/practice* informed by such knowledge.	Essential outcome from draft NQF document: “the ability to appreciate the links between mental conceptions of knowledge and manual executions of tasks informed by such knowledge”.
4) *Demonstration of development in* ability to solve problems and make responsible decisions using critical and creative thinking*, justifying the process clearly*.	Essential outcome from draft NQF document: “the ability to solve problems and make responsible decisions using critical and creative thinking”.
5) Ability to work independently as well as co-operatively as a member of *the study team to enhance the learning process.*	Essential outcome from draft NQF document: “the ability to work independently as well as co-operatively as a member of a team/group/organisation/community as appropriate”.
6) Attendance at the four national workshops and the timetabled tutorials.	

4.3.2.6.2 Adapting the essential outcomes

Neither the course requirements nor the five outcomes, however, captured what was to me one of the most important aspects of the RU course, which was the focus on *individual personal and professional growth* rather than the attainment of a certain grade. It was this which set the course apart from traditional learning approaches (research diary). The ongoing informal assessment (see 4.3.2.3) and the works-in-progress approach to the assignments reflected growth in the individual student and the group; the participatory nature of the tutorials, workshops and study-groups was to help each other develop: participation as opposed to competition. I did not have a vision of a particular ideal level to which all should attain and against which I measured their development. As a course developer noted,

> the nature of the course (open entry) means that students have different abilities; they are therefore assessed to a large extent against their own previous performance (Janse van Rensburg, 1996).

How could the outcomes reflect this? As can be seen from Fig.2 I adapted outcomes (3) and (4) to include the "demonstration of development".

During the data analysis, I went back over the assessment exercise to check the validity of the quantative marks given for outcomes (3) and (4). I used the 'demonstrated' growth between Assignment 3 (evaluating an environmental education programme with relation to international principles for environmental education) and Assignment 5 (applying what they have learnt through the course and through the evaluation in Assignment 3 to the development or re-development of their own programme) as an indicator against which to compare the results :

> Four out of twelve students showed growth between assignments 3 and 5.
> Three students had shown growth from the beginning of the course but not markedly between assignments 3 and 5.
> Two had demonstrated growth during tutorial and individual discussions but were unable to express it clearly in assignments (despite intervention on the grammatical side).
> Two showed no signs of growth from assignment 3, despite promise.
> One student had shown no signs of growth from assignment 3 nor had shown effort (see analysis table).

I concluded that the summative assessment had faithfully reflected both the individual growth and the effort and commitment involved in all but two cases (SY & MH) and that this was something which should be taken into account in the design of the assessment process.

Outcome no (3) (Fig 2) was adapted to be specific about the focus on *critical reflection* in the course. I wanted to put more emphasis on the 'process' of critical reflection rather than the content. This enabled an open approach to the end-results of their thinking processes as long as they demonstrated that critical reflection had taken place. Students' ability to justify the thinking process (see 4.5), to articulate the 'practical theory'(see 4.4), was one of the important and controversial aspects of critical reflection. However, this should not only depend on the written form. I wanted outcomes (3) and (4) (see fig 2) to be able to reflect the results of the ongoing informal assessment which used other "spaces" apart from the written assignments to monitor growth in critical thinking and problem-solving, yet importantly still involving the need to justify the thinking process (see 4.3.2.3).

4.3.2.7 Assessment strategies for final summative assessment

In defining the course outcomes, I had to taken into account the data on learning outcomes which was available. Fig.2 demonstrates the strategies for assessment which I used for each respective outcome. I acknowledged the problematic and limited nature of retrospective formal assessment. I also knew that it would have been more just to the students to have had a transparent assessment scheme from the beginning of the course (research diary). However, they understood the situation and supported the final decision.

Fig 3 Assessment strategies used to evaluate the chosen outcomes

5.2 OUTCOME	STRATEGY FOR RETROSPECTIVE ASSESSMENT
1) Completion of written assignments	A narrative assessment was originally given by the external moderator for the first four assignments. Only Assignment Five was awarded a quantative mark. I went back over all the narrative assessments and awarded them an appropriate quantative mark. This was problematic as I did not have the criteria upon which the moderation was based (see 4.3.2.4).
2) Ability to communicate effectively across a range of contexts *using visual and language skills (including listening skills):*	Information from ongoing informal assessment : * practical presentations (4.3.2.3 iii.) * participation in tutorials and workshops (4.3.2.3 v.)

3) *Demonstration of development in* ability to *critically reflect* on links between mental conceptions of knowledge and *environmental education approaches/practice* informed by such knowledge;	Written assignments : viewed as 'works-in-progress' in order to reflect growth in and between assignments (see 4.3.2.6.1) Information from ongoing informal assessment : * interactive exercises (4.3.2.3.i) * assignment drafting (4.3.2.3.ii.) * contextualising information and concepts (4.3.2.3.iv.)
4) *Demonstration of development in* ability to solve problems and make responsible decisions using critical and creative thinking, *justifying the process clearly;*	Written assignments : viewed as 'works-in-progress' in order to reflect growth in and between assignments (see 4.3.2.6.1) Information from ongoing informal assessment : * interactive exercises (4.3.2.3.i.) * assignment drafting (4.3.2.3.ii.) * contextualising information and concepts (4.3.2.3iv.)
5) Ability to work independently as well as co-operatively as a member of *the study team to enhance the learning process;*	Information from ongoing informal assessment : * assignment drafting (4.3.2.3.ii.) * participation in tutorials and workshops (4.3.2.3.v.)
6) Attendance at the four national workshops and the timetabled tutorials	Register of attendance

Appendix 3 shows an example of one of the completed Statement of Results awarded.

4.3.2.8 Credit value of the certificate

The credit value of the certicate was not defined at the time of the development of the statement of results. As the evaluation of the RU/GF course noted,

> (there was) no overt compliance with criteria for any recognised university qualification. The current Rhodes University Certificate of Environmental Education awarded is subject to recognition by the employers (SARUGE, 1998:57).

This was problematic as it meant that there was no pre-determined credit value for the certificate awarded by Rhodes University. What level of formal qualification was to be awarded to the Zanzibar students? Following discussions with the Zanzibar Commission for Manpower, it was decided that the course would be awarded formal recognition in Zanzibar at the equivalent level of 'Certificate' (see 4.3.3.5.3 for clarification of the level of certificate in Zanzibar).

4.3.3 Discussion of the Distances between Aims and Assessment

> We did not challenge the institutional and pedagogical practices of universities, which place such a heavy emphasis on assessment that it clouds students' experiences in the course (Fien & Rawling, 1996, on the Deakin Univeristy distance learning Masters in environmental education).

> Introduction of formal accreditation would mean more formal assessment procedures, which could stifle learning…. However, assessment need not prevent learning, it can in fact support better learning. (SARUGE, 1998).

4.3.3.1 Introduction

There is little in the literature about the implications of formal assessment for distance learning courses with a socially critical or reflexive orientation to environmental education. Fien and Rawling (1996) highlight it as an issue which needs careful consideration in future course development. It is also noted in the SARUGE report (1998). As the assessment scheme for the Zanzibar RU course was, in effect, retrospective assessment, it did not challenge the learning processes involved within the course. However, the findings do raise serious issues for future course development. The following discussion reflects on the need to review the stated aim of the course to guide appropriate assessment and on how to reduce the distances between the aim of an innovative, process-oriented course and traditional forms of assessment.

4.3.3.2 Aims, orientation and assessment

The findings (see 4.3.2.4) show that the aim and orientation of the RU course are areas which merit further discussion in order to guide the development of appropriate assessment schemes for formal accreditation.

4.3.3.2.1 Original aim of the Zanzibar RU course

It is important in environmental education, and especially in the area of distance education, to clarify the ideological orientation implicit in the desired end product of learning. It may be that a course's aim is to critically reflect on society's conditions and yet, if care is not taken, it is found that in distance education :

> (the) textual, curricular and pedagogical processes ... marginalize and dissolve the self-directedness of people's learning, and (confine) them to a system of learning which reflects and aids the reproduction of the ideological and structural conditions of society (Evans and Nations, 1989).

The findings show that it was difficult for me to translate and break down the original aim of the Zanzibar RU course into measurable outcomes for assessment (see 4.3.2.6.1). The stated aim focused on the ability to do the job better. The course as run in Zanzibar did not and could not measure if the students were doing their job better or whether they 'made it better'. There is a trend in professional development in adult learning courses towards 'performativity', an improved performance in the workplace (Usher, 1997). Concepts like performativity emphasise efficient performance and tend to dehumanise educational processes (Taylor in Le Roux, 1998). This is particularly pertinent in distance learning courses where students can be subjugated by text and distance (Evans and Nations, 1989) to a pre-digested and spoon-fed curriculum (Harris in Plant, 1997), what Evans and Nations refer to as ‘instructional industrialism’, a production line for delivering more efficient workers. I feel that such a trend is not in line with the RU course orientation. How best therefore can the aim of the RU course be defined ?

4.3.3.2.2 Aims and orientation in comparable distance learning courses

The aims of a course depend upon its ideological orientation. Although the course orientation was not ‘openly ideological’ (Lather, 1986), i.e. it was not clearly stated in any of the course materials in 1995, its ideological framework drew originally on critical theory and critical pedagogy . It could be loosely associated with an approach to environmental education labelled ‘socially critical environmental education’ with its emphasis on praxis, critique, participation and history (Janse van Rensburg, pers comm., 1998). Why was it problematic for me, therefore, to define the aim of the course? It is illustrative to compare the statement of the aims and orientation of two other distance learning courses in environmental education which draw on the same ideological framework as that described above and which are both assessed formally.

The Deakin-Griffith Environmental Education Project

The 1995 Deakin-Griffith Environmental Education Project which developed courses for the Master of Education programme at Deakin University stated that environmental education has

> evolved as a field of professional practice to address the changes in personal values and social structures that are necessary to support ecologically sustainable and socially just ways of organising people-nature and people-environment relationships (Fien *et al.*, 1992).

The courses faced the challenge of discovering professional development experiences and processes that can

> conscientise environmental educators to the transformative nature of their field and empower them to be active, critically-reflective practitioners in their chosen profession (Fien *et al.*, 1992).

The courses were based on critical theory and explicitly on Robottom's alternative paradigm for professional development in environmental education and the support for "a critical community of practitioner researchers" (Robottom in Fien *et al*, 1992). The education of "reflective practitioners" who use ethical and contextual considerations in professional decisionmaking was the goal of the Masters programme (Fien and Rawling, 1996).

Masters in Environmental Education through Action Enquiry

The primary aim of the Masters in Environmental Education through Action Enquiry, offered by Nottingham Trent University in UK, is "to facilitate the critical practice of educators and enable them to foster the social conditions for realising a sustainable society" (Plant & Firth, 1994). The course is based on the belief that distance education students and their tutors need to be critically reflective about the theory and practice of environmental education . "In this way environmental educators can … be fully involved in social transformation designed to improve the human-environment relationship"(Plant, 1997). The students are required to develop a critically reflective approach to professional practice through open text and action enquiry.

4.3.3.2.3 Differences in orientation: a reflexive orientation to the RU course

In the two courses mentioned above, explicit mention is made of the aims, the ideological orientation and the paradigm informing curriculum development. The RU course developers' orientation differs from these two courses in an important way. Although the RU course developers' orientation also draws on critical theory and socially critical environmental education,

> the framework also challenges some of the very assumptions of socially critical environmental education (e.g. the notion of empowerment)…(it) is consistent with a more process-oriented and reflexive orientation – probably the two main features departing most significantly from socially ciritcal environmental education, which does not always seem to question critical theory assumptions, or allow for open outcomes to educational processes (enlightenment, empowerment, conscientization, reflective practice are fixed ideals

> pre-determined by the critical pedagogue (Janse van Rensburg, pers comm, 1998).

The course developers identify with a reflexive orientation to environmental education which is more tentative about processes of change than critical theory's advocacy of empowerment and social transformation (see also 4.4). A reflexive orientation to environmental education may help stimulate and shape whatever changes are deemed necessary by participants through "many and small diverse ways" (Orientation notes, 1995). There is currently a strong reflexive, process-oriented perspecitve to RU/GF course development (SARUGE, 1988). However, this orientation, being reflexive, is not fixed, it is "socially constructed and continually reconstructed as the course participants' understandings grow" (Janse van Rensburg, pers comm., 1998). The reflexive orientation to environmental education which I describe above is only clearly articulated by some of the course developers and has been partially clarified through the tensions of grappling with ideas "IN" the course and in the on-going process of shaping the course" (SARUGE, 1998:64).

Formal assessment traditionally requires a clearly-stated framework and ideology (as is the case with the two critically reflective courses described above), from which to develop a sensitive and appropriate formal assessment scheme. And herein lies the paradox for the RU/GF course, for the post-modern or reflexive approach of the course opens all ideological orientations to debate - even its own. It belies being 'pinned down' (research diary).

> Outside of modernist assumptions, under the post-modern or reflexive labels, there is a post-paradigmatic position which rejects the notion of discrete and foundational sets of knowledge or meta-narratives …The boundaries are blurred. Instead of the neatly distinct 'fields' of paradigms (behaviourist, socially critical) we have an ill-defined 'moorland' of educational processes. Through our post-modern lens the wetland looks fertile and productive; through our modernist spectacles muddy and untamed … (Janse van Rensburg, pers comm, 1998).

As I reflected on this issue, I became concerned that it would be this very need to 'define' which could pose one of the greatest threats to the innovative process-oriented approach of the RU course. If assessment needed to pin its butterfly down, it would obviously cease to fly. The challenge for the design of an assessment scheme for the RU/GF course is that it should be an integrated part of a reflexive process orientation to environmental education. I feel this is an area for participatory research and understand that the course developers in South Africa are currently working on this issue.

4.3.3.2.4 Towards a more explicitly stated aim for the Zanzibar RU course

As if to illuminate the value of a process orientation, it was only as a result of grappling with the tensions mentioned above that I came to a clarification of my own aims in the Zanzibar RU course. I felt that, through the Zanzibar RU course, I should be helping develop “informed, enquiring practitioners” who are prepared for uncertainty and processes of change (research diary) : ‘informed’ meaning an understanding of knowledge-making, ‘enquiring’ meaning engaged in enquiry and reflection (even on the course’s own ideology) and ‘practitioner’ involving the development of theory through practice (see 4.2.4.2 and 4.2.4.3).

4.3.3.3 Outcomes vs Objectives, and Curriculum development

4.3.3.3.1 Outcomes vs objectives

Having identified a more explicitly stated aim, it then needs to be broken down into something measurable on which to base evaluative criteria. This is another difficult area of assessment : the measurability, and desirability of measuring, different types of learning processes. As Plant (1997) argues,

> it is important to resist the temptation to be driven by easily measured and manipulated content since many important learning outcomes cannot be easily measured. The course designer needs to be sensitive to subtle yet highly valued outcomes and effects.

The decision whether to break the learning process down into objectives or outcomes also depends on ideological orientation. As explained earlier, my decision to base the assessment on outcomes was influenced by the outcomes-based learning approach being promoted by the NQF in South Africa.

Why the international move away from the more traditional use of objectives? Marland and Store (1993) claim that there is an obsession in educational planning with objectives which emanates from a model of planning that stresses the importance of rationality and ends-means logic. They argue that the perceived need for clear, unambiguous objectives stems from two beliefs. The first is that precise objectives provide teachers or course developers with clear guidelines for selecting instructional means and evaluative criteria; the second is that providing students with these objectives will increase their motivation and learning. These tenets have been contested strongly and extensive research in this area has not resolved the debate. Marland and Store advise that, although research showed that objectives within the text are useful when learning tasks are complex and difficult, they should be used with caution in distance learning:

> Consider the implications of the selective attention hypothesis … which proposes that objectives cause students to be selective in their text processing and focus only on objective-relevant material (Marland and Store, 1993:153)

Section 4.2.4.2 showed the diversity of learning experiences recognised by the students of the Zanzibar RU course. The same diversity was highlighted during the evaluation of the RU/GF course (SARUGE, 1998). Is it possible or wise to try to prescribe all of these experiences? What would happen if all were not prescribed ? Marland and Store advise that if one takes the position that "prespecified objectives represent a common core of student learning which is to be extended where possible”, one could not assume that the learning would take place; one would need to use instructional strategies to promote the extension of learning horizons beyond those of the presepecified objectives :

> (we need to) encourage incidental learning by giving greater emphasis to expressive objectives, that is, unanticipated learnings which are ‘expressed’ from the educational encounters with the instructional materials (and experience) (Marland and Store, 1993)

The concept of expressive objectives could help alleviate the limitations of the technocratic ‘management-by-objectives’ approach. However, my experience of the introduction of innovative learning courses in Zanzibar leads me to agree with Vulliamy (1987) that:

> The addition of new .. learning experiences … are likely to be rejected if they are not given the same examination status as conventional work.

An aspect of distance learning is the lack of contact time between tutor and students; it would often be difficult to achieve all of the stated objectives never mind the expressive objectives. Dependent on the situation, expressive objectives – and other unmeasurable learning processes - could be regarded as 'lesser' and therefore lose their value.

For the reasons described in section 4.3.2.6, I would recommend that outcomes be used in the development of an assessment scheme for the RU/GF course. However, it must be kept in mind that there are threats inherent even in the formulation of outcomes :

> in stressing what is quantitatively measurable, rather than the more complex and subtle qualitative outcomes of learning and teaching, there is a danger of ignoring long term goals which are most valuable. If applied too narrowly, it could be reduced to a narrow statement of measurable behaviour and lead to learning programmes that are fragmented and irrelevant (NCDC, 1996)

4.3.3.3.2 Challenges in formulating outcomes

Janse van Rensburg (SARUGE, 1998) perceived that the Zanzibar assessment reflected the aims and orientation of the course and proposed that, together with the learning from the current development of course outcomes with students around assignments in South Africa, it could be used as the basis for the exploration of writing unit standards for the course in order to seek accreditation within the NQF. I highlight three challenging areas in the formulation of outcomes for the RU course which are important to take into consideration during this process.

Critical reflection

A case study of student experiences in the Deakin-Griffith Environmental Project revealed concerns in the area of assessment (Fien & Rawling, 1996). There is much to learn from this research experience. Students were concerned that the “products of reflection – the workshop reports, diary entries, and synthesizing essay” were part of the course assessment.

> I didn’t feel that another person could assess a diary, because they are going to be coming from their values and beliefs and they are going to be judging us, more or less, on how well we’ve reflected and I just can’t see how they can do that effectively (Dierdre, interview).

One student felt that assessment of critical reflection contradicted its purpose and the objectives of the course. Changes were made and criteria were based on the processes of reflection rather than their substance. However, there was still concern that “whilst they were being asked to acknowledge and accept themselves through a critically reflective process, a judgement would be made of their work based on externally imposed criteria”. Fien and Rawling even considered taking the reflective practice components out of the assessment or developing a system of self- and peer assessment.

I experienced similar concerns in designing the assessment scheme, especially as the criteria for assessment had not been negotiated with students at the beginning of the course but was being imposed retrospectively. However, as we have seen, the RU course does differ in several ways from that of the Deakin University course. The course is job-oriented and, although it aims towards an understanding of the whys and hows of what students are doing and thinking, it does not focus as intensively on personal analysis – it looks beyond the ‘me’. It does not promote one particular paradigm, such as critical theory, unquestioningly. It was perhaps the unquestioning nature of the Deakin University course developers’ own orientation which caused the students to feel that assessment was judgemental. However, value-based judgement of critical reflection is a concern for all. In outcome 3 (fig.3) I attempted to capture the essence of the focus on critical reflection in the course. In section 4.4, I argue that the outcome also needs to be action-centred, to involve analysis-in-action or that ‘reflexive action’ be considered an outcome (see 4.4.3.4). The notion of “reflexive competence”, as developed by the National Training Board (National Training Board and GTZ, 1997:106), is important here as it clarifies this point and takes it further, in its focus on preparedness for uncertainty:

> Reflexive competence : our demonstrated ability to integrate or connect our performances with our understanding of those performances so that we learn from our actions and are able to adapt to changes and unforeseen circumstances.

In 4.5 I also mention the importance that the strategies for assessment of such an outcome do not rely solely on the written assignment, especially in a multilingual learning situation. In South Africa, in 1994, the Independent Examinations Board (in ELTIC, 1997) suggested that assessment is made on the basis of a combination of three or more of the following items: a written examination, a coursework component (possibly linked to portfolios or records of achievement), orals, practicals, presentations, projects and artifact. To this I would add the strategies I used in the ongoing informal formative assessment (see 4.3.2.7 and 4.5).

Demonstration of growth

As part of the development of the assessment scheme, I wanted to translate the RU course focus on individual personal and professional growth into measurable outcomes; to be able to reward not the achievement of a certain grade but the individual student’s growth; and to avoid a change from collaborative to individualistic, competitive learning (see 4.3.2.4). The concept of “demonstration of development”, for me, strenghtened the idea of the assignments as works-in-progress, of the students developing through the course rather than learning fragmented modules within a course.

4.3.3.3.3 Outcomes and curriculum development

The development of the RU/GF represents a move away from the traditional Research, Development, Diffusion and Adoption approach to curriculum development (see 2.7.2). Course development and evaluation has been of a participatory, process-oriented nature, a “conceptual grappling with what constituted good environmental education” (SARUGE, 1998:64). The draft NQF document states that curriculum development should begin with the formulation and agreement of essential outcomes and that these should inform all subsequent curriculum development processes. However, Janse van Rensburg (1998) notes that in the curriculum development process it has been "the grappling with ideas (related to environmental education and pedagogy) IN the course and in the on-going process of shaping the course, (which) presents as one of the main areas of value of the course". The course curriculum, structure and processes should never be accepted as a given that needs no further development – which means that the outcomes, too, need to be open to change if necessary. Ongoing investigation, in South Africa, into the potential for accreditation of the RU/GF course within the NQF and outcomes-based education framework, draws similar conclusions:

> Developing course outcomes in such a way that consecutive groups of course participants can review and rearticulate them on the bases of changes in time-space context, employers and standards refereeing bodies may be assured not of courses which maintain constant 'standards', but of courses which set a standard in responding to changing needs in the world of work (Janse van Rensburg and Lotz, 1998).

The approach of the NQF seems to advocate a 'developmental' and integrated approach to learning and assessment, which could support such an approach to the development of outcomes:

> Learning, teaching and assessment are inextricably linked. Assessment has a developmental and monitoring function to fulfil. It is through assessment that the efficacy of the teaching and learning process can be evaluated; feedback from assessment informs teaching and learning, and allows for the critique of oucomes, methodology and materials; assessment practices can have a profound impact on the processes of teaching and learning in that they set standards which guide these activities (National Dept of Education, 1996).

4.3.3.4 Credibility of course for accrediting institution

Once the aims and outcomes are articulated, a further important question is their recognition and acceptance by an appropriate accrediting institution. One of the main challenges for critical theory in curriculum development has been that its goal is counter-hegemonic (Stevenson, 1987). Research has shown that in most educational institutions, there is evidence of objectives related to knowledge, awareness, attitudes and values consistent with internationally accepted objectives for environmental education. However, there was little evidence of objectives related to the problem-solving and action orientation to environmental education (Fien, 1993; Goodson, 1990; Stevenson, 1987). This has been attributed to the inherent difficulties in trying to translate general goals into manageable instructional objectives (Hungerford and Volk, 1990). However, Robottom argues that this is because the dominant presuppositions about knowledge, teaching and learning are that the purpose of (adult education) is the socialization of students and the maintenance of the existing social order rather than the questioning of the existing social order. Obviously some courses with a critical theory orientation have been accepted at university level, as can be seen by the examples of the Deakin University and Nottingham Trent University courses. Reflexive modernisation is also challenging to the status quo. I have not read of any distance education courses in environmental education with a reflexive orientation which have an approved formal assessment scheme. However, there are moves internationally towards recognising critical reflection as an educational competence, as can be seen by the 1997 report prepared for the NQF by the National Training Board in South Africa (National Training Board and GTZ, 1997), which advocates ‘reflexive competence’.

4.3.3.5 Level of qualification

4.3.3.5.1 Introduction

The level of qualification to be awarded to the RU/GF course needs to be comparable within international systems. Credibility of the qualification both nationally and internationally is important, in terms of its validity, relevance and quality, if the course is to continue to be adapted for use in other countries outside of South Africa. The draft NQF document (1996) recognised the importance of international credibility whilst warning against “a slavish or uncritical emulation of international systems”. This issue raises some important questions, which I introduce below:

4.3.3.5.2 Entry-level requirements

The open-entry approach to the RU/GF course was one of the reasons it was chosen for the Zanzibar situation (see 2.2.3). The original focus of the course was environmental education practitioners who have experience in the field but who have had little or no formal training. As discussed in section 4.2.2.2, this is where the RU course has a democratising, egalitarian and empowering role in professional development. There is access for all to the learning experiences of the course. With its building-block approach to qualifications, can the NQF maintain an open entry approach? In the search for an appropriate qualification the open entry approach should not be lost as this would result in denial of access to a disadvantaged group of environmental education practitioners. I think there are different ways in which this can be approached, as follows:

4.3.3.5.3 Credit values

In Zanzibar, the Commission for Manpower recognised the RU certificate as equivalent to a Certificate in Forestry, which is a year-long course and takes students to a level required for entry to the Diploma in Forestry. The Certificate of Forestry was open to school-leavers from secondary school. The experience in Zanzibar and in South Africa reveals the diversity of abilities and levels of students. At what level should the credit value of the qualification be set ? Seven out of the twelve students recommended that there be offered a Diploma course following the RU Certificate.

How would a Diploma differ from a Certificate ? Would a rigid division between levels restrict the individual growth within the course as students set their expectations according to the level of the qualification ? How can one differentiate between critical reflection of a certificate level and critical reflection of a Diploma level? How can one address the concern raised in the evaluation of the course in South Africa about the “’fairness’ and value of a system in which almost anyone completing the course would receive the same certificate, despite significant differences in the efforts they put into the course?

4.3.2.5.4 The Two-levels Approach

In order to inform the debate on credit values and assessment for the RU course, it is illuminating to reflect on two distance learning courses in environmental education which are based on a two-level approach to credit values:

Eastern Cape Teachers Education Course

In the adaption of the ‘standard’ Goldfields course for an environmental education course for teachers and teacher educators, Van Harmelen (pers. comm.1996) envisaged a two-level course, where the first four courses were at first year University level and one course was at second year University level. The initial courses were to be “very practical”, looking at “essential theory” and how theory is informing practice. The second year would be “more challenging of the theory”. Critical reflection would be throughout, “operating at different levels” (pers comm, August 1996). In 1998, there were intentions to steer the course towards formal accreditation as a Further Diploma in Education within Rhodes University. This course did apply entry requirements.

MA in Environmental Education through Action Enquiry

The environmental education course offered by Nottingham Trent University also has two-levels : completion of the first six modules leads to an Advanced Graduate Diploma in Education; completion of all twelve modules leads to a Masters of Education. The sixth module requires the development of a proposal outlining an investigative approach to an issue which is of direct relevance to one’s professional practice and which, together with a critical review of one’s professional development, also constitutes Part 1 of the Dissertation for the MA.

From Certificate to Diploma within the same RU/GF course: a potential model scheme

The Eastern Cape Teachers Education Course took “the form of an induction into educational theory from a philosophical rather than process-oriented perspective” (SARUGE, 1998:127). I think that we have to be careful to avoid a prespecified, graded, spoon-fed curriculum which could result from an ‘induction’ approach to a two-level RU/GF course. Two levels to the course need not, and should not, imply two different courses and respective curricula.

I favour the idea of the opportunity for a higher qualification growing from within the core course. Assignment five of the RU course is similar to module six of the Nottingham Trent course. Both aim to consolidate what has been learnt through the course and apply it to one’s own professional practice. What is the difference between module six and the Master’s dissertation? The Master’s dissertation involves an extended piece of action research based on the plan presented in module six. I think that this approach has much to offer in the debate on levels of the qualification for the RU course. Rather than a differentiation between levels of thinking between the two grades, the Masters qualification “evolves from (a) prior engagement with all previous Modules” (Student Guide, Module AN 9-12). My analysis of the “demonstrated growth” between Assignments Three and Five (see 4.3.2.6.2) led me to consider the possibility of a similar model to that of the Nottingham Trent University course : the opportunity to move on to Diploma level in a second year within the framework of the same course. The Diploma would be a continuation, taking further the learning from the first modules (i.e. the four core modules of the present RU course). As with the MA in environmental education through Action Enquiry, Assignment Five could be the basis for a piece of job-oriented action research for a longer dissertation, which would require a more profound engagement with text and concepts as well as addressing the need for ‘testing in practice’ over a longer period of time. A model for a piece of ‘reflexive action research’ is proposed in section 4.4.3.5. The capacity and commitment of the student to undertake the Diploma level could be assessed together with the student as they grow between assignments three and five. I feel that this possibility would also motivate some of the students who showed early promise to strive more with Assignment Five.

4.4 DISTANCES BETWEEN THEORY, PRACTICE AND BEING CRITICALLY REFLECTIVE

4.4.1 Introduction

This chapter describes the perceived distances between theory and practice observed during the course by the students, the course developers and myself, despite the critically reflexive orientation of the course which sees theory and practice as integrated. It explores the potential for future course development to provide opportunities not only for "reflection on practice" but also for "reflexive action" as a way to approach the aims of integrated theory and practice. I conclude 4.4 by proposing that reflexive action be considered as a course outcome.

4.4.2 Findings on perceived distances between theory and practice in professional development in environmental education

4.4.2.1 Introduction

The theme of distances between theory and practice emerged from the data analysis; it was not part of the original framework of analysis. It was not the frequency with which data related to this theme emerged which justified its treatment as a separate but inter-related theme but rather its potential quality as a contribution to the academic discourse on professional development through future courses in environmental education in southern Africa. During the analysis the findings fell into clusters of meaning which I have compiled under the following headings: not a 'How to Do Environmental Education' course; ideas behind practice; integrated nature of theory and practice. I present initially the summary of the findings from the perspectives of the RU course developers and myself, followed by the perspectives of the students on the course.

4.4.2.2 RU course developers' perspective

Not a 'How to Do Environmental Education' course

The RU course represented a move away from more traditional models of professional development in environmental education, such as the technocratic, instrumentalist Research, Development and Diffusion model which presented a reified body of theory for uncritical consumption (see Robottom, 1987) and from the behaviourist, social engineering model which presented a universal set of skills to apply to improve practice.

It is not so much a "how to" course, however, but more a "why do we do what we do" course. We do not intend to give recipes and models and to design your programmes for you (Foreword to RU course, 1995).

Janse van Rensburg (1996) felt that some students' requests for more "practical" activities

> often may reflect a wish for recipes and specific guidelines on "how to do environmental education". These are not available for the dynamic, real-life situations in which we find ourselves responding to environmental problems and educational needs (1996).

Following discussions with the students during the action research component of this study, I was concerned that the course should offer practical examples of alternative methods for review:

> as a result of their lack of formal training, the students have only been exposed to examples of educational approaches through their own formalist educational background – except for the forestry officers who have had some local training in PRA methods. If they come to a greater understanding of some of the weaknesses and inconsistencies in their present approaches, with what would they replace them? There is a real need for them to have some practical exposure to alternative methods, which of course they should not accept uncritically (research diary).

I agreed with the students that the course needed to go beyond an exploration of "why we do what we do".

Ideas behind Practice

The course intended not only to introduce participants to the social and educational theories on which environmental educators draw but also to explore the underpinnings of our own practice and engage in a critique of those theories (SARUGE, 1998).

> We want to come, with course participants, to a better understanding of the ideas behind various practices in environmental education, old and new (Foreword, 1995).

Professional development in environmental education aimed to

> give those involved in environmental education opportunities and skills to try and understand their "theories of action", the reasons why they do things 'intuitively' as they do, and reasons for perhaps doing them differently (Janse van Rensburg, 1996).

Part Three of the course provided an historical overview of developing environmental education theories and Assignment Three required students to analyse their own practice in the light of these theories, to uncover the ideas behind the practice. Following on from this, Assignment Five required students to develop or re-develop a programme or educational resource with a written rationale which makes the theory underpinning the resource or programme explicit. The assumption seemed to be that, through clarifying theories in practice, students would develop their capacity for change.

It was the 'ideas behind practice' approach which originally attracted me to the course (see 2.2.3). However, there were many difficulties faced in its implementation (see 4.5.2.3). Only six out of the twelve students who finished the course were really able to critically identify the ideas behind their practice.

Integrated nature of theory and practice

Theory and practice were viewed by the course developers as "inseparable interactions of thinking and doing" (Orientation notes, 1995). There was to be no disempowering separation between the students and a body of theory which was developed outside of practice. By locating the coursework in the student's own work situation and focusing on critical reflection,

> the assumption (was) that every action and orientation feature both theory and practice in an interactive unity (Janse van Rensburg, 1995).

In response to demands for more "practical" activities, Janse van Rensburg stated that the course was

> a job-oriented course in which the most practical thing to have is a good theory (ibid.).

However, she also recognised that there may be a need to complement the theoretical reflections with “productive work” and acknowledged the wish to “try out new ideas in practice” (*ibid.)*.

I felt that there was an action element missing in the development of a ‘good theory’ and that this could perhaps be made available through ‘encounter’ (O’Donoghue,1996) in the field. The course reflected back on practice and in Assignment Five students were supposed to use this awareness to develop a plan for future action. By analysing students’ written assignments, I found that six of the students were able to articulate the ideas behind their current practice in Assignment Three; however, in Assignment Five, five of these students advocated an idealised vision of a participatory decision-making approach in order to improve their practice. It was difficult for them to justify this vision critically or to discuss the challenges which this approach would face as they had no practical experience of the approach.

> I feel that they are ‘talking the talk’ rather than addressing the gap between personal beliefs and professional practices which such approaches undoubtedly would encounter. How can we get beyond the proselytising and into tackling the challenges facing such methods? (research diary).

4.4.2.3 Students’ Perspectives

Fig.4 presents in table form the findings of the fourth cycle of enquiry in the action research (see 3.3), which illuminate the students’ perspectives on the distances between theory and practice. Interestingly, the students were in complete agreement on all the points presented. This consistency in viewpoint was a further factor which led me to analyse this issue further.

Fig.4 Expectations and experience of professional development in environmental education.

The findings are coded in order to be able to make specific reference to them in the following discussion.

EXPECTATIONS	EXPERIENCE
E1. Students' expectations :	5.3 F1. Students' experience
E1.1 Learn more theory, techniques and practical skills to solve problems.	F1.1 Learnt some theory but practical activities not addressed. Only 2 field trips.
E1.2 Get practical experience in testing methods.	F1.2 Not addressed.
E1.3 To study, develop and use learning in workplace.	F1.3 Learned from each others' assignments; learned from the literature and practical research; capacity building in writing skills; confidence in presentation and self-explanation.
E1.4 Learn techniques for community participation.	F1.4 Achieved theoretically. Some practical experience through participatory learning nature of course.
E1.5 Find out how to get *real* participation – find practical alternatives.	F1.5 Not addressed. No practicals.
E1.6 Share ideas with others.	F1.6 Achieved through regular group discussions.
E2. Stated course expectation :	5.4 F2. Students' experience
E2.1 Come to a better understanding of ideas behind practices, old and new.	F2.1 Achieved through discussion and practical experiences in the course.
E2.2 By being better informed about practice and being able to critically reflect on own practice, to develop better ways of doing environmental education.	F2.2 Achieved through discussion, assignments and practical experiences in the course. No testing in the field.

Not a "How to Do Environmental Education" course

Fig.4 shows that the group saw the learning of skills and techniques to be an essential part of the improvement of their practice. Their reasons included the following:

- the confidence that there existed "successful" methods out there (MA, MH, MM);
- the concern that because they were not familiar with many approaches mentioned in the course, any discussion would be at an abstract 'theoretical' level (KM, SA, MK);
- the promotion of participatory approaches at environment policy-level and in donor-funded projects, for which they needed training (all students).

There was disappointment at the lack of skills training and of practical experience of certain methods. The students did not agree that the course should limit itself to reflection on practice; they wanted some opportunity for training to complement the reflection. They recommended that the students should identify desired skills at the beginning of the course to give time for planning opportunities for learning in the classroom or observing them in practice. They were not expecting directives for taking action; they did want conceptual tools to reflect on practice but not just on ongoing practices in Zanzibar; they wanted to be exposed to new, evolving methodologies which they could 'test' and 'develop' in an appropriate way.

Ideas behind Practice

The students did not include E2.1 explicitly in their list of expectations. They reported in group discussions that they had achieved a greater understanding of the ideas behind their practice (see 4.4.2.3) but that this was only part of what they considered to be professional development.

Integrated nature of theory and practice

The analysis of the data showed differences and inconsistencies in the students' perspectives on the relationship between theory and practice. There seems to be a separation of theory from practice, techniques and skills as in expectation E1.1 and yet E1.3 reveals an integrated view of theory, research and practice and they recognised that E1.3 was partially fulfilled through the "literature and practical research".

One student was able to articulate the tensions between learners' expectations and the course developers' approach. He found the course was not just abstract theory because it encouraged learning within the context of his own environment. He saw theory as "telling someone how to do it" and practice as "testing theory in the field; the third step involved returning to the classroom and "evaluating the theory following practice"(KM). To me, he was articulating an intuitive theory of praxis, a praxis which necessitated an action component. He felt that the course should give more time and focus to the last two steps (KM).

The table shows that there was consistency in the group's desire for more experiential learning. In the students' analysis of their experience of expectations E1.4, E2.1 and E2.2, they said that these were achieved to some extent through "practical experiences in the course". They explained that the way in which the course was conducted - and the way in which they as students participated - exposed them to, and involved them in a participatory, critically reflective approach. F1.3 and F1.4 show the forms in which that learning took place.

4.4.3 Discussion of the findings on the distances between theory and practice

4.4.3.1 Introduction

Throughout the developing story of environmental education (O'Donoghue, pers comm.1998), there has been debate in the literature concerning the relationships between theory and practice; from what Janse van Rensburg (1995:95) terms the theory-practice gap of the positivist and interterpretavist positions, to the theory-practice dialectic of the "praxis" of the critical position. However, there is little documentation of experience within a reflexive process such as where theory and practice are viewed as dimensions of one broad process of education, research and change (see SARUGE, 1998).

Was the consistency in the students' viewpoint a reflection of their own separation of theory and practice – or does it merit further investigation? Was their demand for practical skills training a desire for quick-fix solutions, a modernist desire for meta-narratives and for pre-determined ends to education (Usher, 1997)? Was their desire for a more practical orientation a lack of understanding of critical reflection, a lack of experience to see that conceptual tools could lead to openness to change and so to better practice? I would argue that the students had a more complex, albeit unarticulated, understanding of the relationships between theory and practice and therefore they were demanding of the course.

4.4.3.2 Integrated nature of theory and practice

Janse van Rensburg (1998:42) found that the ongoing "search for greater conceptual clarity" in course development was at the heart of the strength of the RU/GF course. The SARUGE (1998) report noted that tensions between orientations existed amongst course developers, and between them and course tutors. Differing views on, and interpretations of, praxis is a good example of this and have an impact on what is defined as valuable for professional development in environmental education. Views differ, for example, on how far the course subscribes to the constituitive elements of praxis (see below). Critical theory's praxis is understood as "informed, committed action" (Kemmis, 1988:45) and draws on Habermas' three separate functions in the mediation of theory and practice: the formulation of practical theories about one's own practice and its social situations; the level of enlightenment whereby one's practical theories are tested by action in one's own situation; transformation through social and strategic action in a social and political context.

A developing reflexive orientation to course development drew on the notion of praxis but also involved a questioning of the uncritical ideals of enlightenment and transformation (see 3.4.1.2). As Popkewitz (1991) argued, making systems of control such as regulation, normalisation, exclusion, discrimination and exploitation visible does not necessarily bring enlightenment and rational change, as critical theorists argue, but it does render such systems potentially resistible and open to change. Points of weakness in the 'regimes of truth' can identify sites of transformation. Janse van Rensburg says that for course developers

> 'praxis' meant understanding our work through critical reflection on/in that work; being critical involved scrutinising the theories within our practice, and the social structures which shaped them (1998:37)

and for that reason, perhaps, the course focuses on Habermas' first function of critical reflection on practice. The relationship between theory and practice within the course is integrated because practice was to be clarified through " (students') own and documented educational theories". Written and oral assignments were explicitly linked to students' practice.

Le Roux (SARUGE, 1998) does not question the liberating aims of praxis and sees praxis as a useful conceptual framework for the course and theoretical description of professional development. "Praxis is about better thinking and doing and the ideas of critique and conscientisation are pivotal". This viewpoint is similar to that of the two other critically reflective distance learning courses for professional development in environmental education discussed in section 4.3.3.2.2.

What does students' experience of the relationships between theory and practice tell us about these approaches? Findings from the Zanzibar course show that learning did take place in the real world of their own work situation and that their own practice did form the source of learning. The practice-based nature of the coursework did provide the opportunity to explore what Robottom (1987) and Fien (1996) referred to as the gaps between personal beliefs and professional practice, even though students struggled to relate their work to articulated academic theories (Janse van Rensburg, 1995a). Therefore, the course was fulfilling its aims. However, there was debate as to whether this could lead to better, more informed practice. In my view, the students' discourse about the lack of practical activities (see 4.4.2.3) does not reveal a perceived distance between theory and practice. I found that what the students desired was “to go beyond theory” (research diary). As KM’s comment shows, they desired at least the second of Habermas’ functions, in some form – the testing of their practical theory in their own work situation in order to “develop” an appropriate theory for improved practice. Rather than theorising about potentially more appropriate methods in Assignment Five, they desired “authentic insights, grounded in participants’ own circumstances and experience” (Kemmis 1988:46). Students in the South Africa course expressed similar disappointment and frustration (SARUGE, 1998). Students on the Deakin University Masters course (see 4.3.3.2.2) found that the course emphasised reflection but tended to overlook opportunities for strategic action:

> we are encouraged to adopt the cyclic pattern of *practice-reflection-improved practice* yet don’t get to experience the practice dimension (Fien and Rawling, 1996:18).

This raises many questions for the nature of the course in terms of both ideology and logistics. Can, and should, a semi-distance learning course with a reflexive orientation address these needs ? Even just fulfilling the aims on critical reflection on practice posed a challenge:

> For those presenters and tutors who did aim to both introduce students to the common educational theories which implicitly shape our practices and to critically reflect on them towards reshaping practice, doing so in the context of a one-year introductory course involving a very wide range of participants was and is a daunting undertaking (SARUGE, 1998:39).

I share a wariness of the unqualified use of the term and aspirations of critical theory’s praxis, associated with a reflexive orientation. However, I feel that the course needs to move from critical reflection *on* practice towards critical reflection *in and within* practice. I feel that this could be achieved through more ‘experiential learning’ in the course and through further investigation into a form of ‘reflective action research’, which I introduce below.

4.4.3.3 Experiential Learning

Part of the reason for the demand for skills training in Zanzibar is the real lack of training of the environmental education officers (see 2.6.3). Students were able to reflect on their own practice but had little knowledge of other evolving environmental education approaches. How could exposure to these techniques and approaches be achieved? To borrow a phrase normally used in liberal outdoor education, the students found the course itself a form of ‘experiential learning’. The participatory, open-ended, critically reflective nature of the course exposed the students to a reflexive orientation. From their formalist educational background, such an approach would have been abstract theory without this type of experiential learning. Were we therefore perhaps helping to perpetuate a perceived theory-practice divide by asking them to reflect on approaches of which they had no experience in practice, for example participatory methodology? Some students had indeed been exposed to or taken part in some of these approaches but were not sure of their ideological orientation. I agree with the students that it would be possible, and is important, to integrate some practical exposure to other approaches into the teaching programme, as has happened in the 1995 Natal Parks Board course in South Africa (Janse van Rensburg, pers comm., 1999).

4.4.3.4 Reflexive action

Exposure to or training in new approaches is important; however, there is a potential danger of uncrritcal consumption of a pre-determined set of actions. I feel uneasy with Fien and Rawling’s (1996:18) response to the students’ evaluation of the Deakin course (see 4.4.2.1) which agreed with Gore and Bartlett’s suggestion that

> examples and skills for successful personal and professional change need to be incorporated early into reflective practice courses.

It cannot be assumed that there are pre-determined skills for “successful” change. Experiential learning needs to be part of “experiential review” (O’Donoghue, 1993:37), which critiques even its own theory. This is where I feel that the students show that they had a more complex understanding of theory and practice and that, in fact, they were more demanding of the course orientation as it was articulated. They wanted to “study, develop and use learning in (the) workplace” (E1.3). Although the course did not aspire to Habermas’ “strategic action”, the findings show that it stopped short of the fulfilment of a reflexive orientations' action-centred nature. Janse van Rensburg's (1996) comment on the request for practical activities is illuminating:

> the course is aimed at providing conceptual tools to reflect on encounters and experiences, rather than the experience itself.

If theory was to be seen as inseparable from the educational process, then there should be critical reflection *within* practice and not only critical reflection *on* practice. I draw these conclusions from Janse van Rensburg's (1995b:95) discussion of reflexivity and social processes of change. Proponents of a reflexive orientation to environmental education advocated that research should be

> action-centred rather than analysis-centred, although "analysis-in-action" would be the most appropriate style.

Ways need to be found to allow students the opportunity for "encounter" in the interacting processes of encounter, dialogue and reflection (O'Donoghue 1993). Assignment Five provides the opportunity for producing resource materials and as Janse van Rensburg (1996) notes,

> (this) is a strongly educational process, a directed form of active learning, and therefore every bit as valuable a PROCESS (aside from the projects) as a training course.

The course could provide similar opportunities to that of materials production for active learning. "Reflection on practice and reflexive action (are) important features of environmental education as "responsive process of change" (Janse van Rensburg, 1995b:168) and I feel that there is a need for more opportunity for reflexive action within the RU course in order to address student concerns and to meet course aims relating to reflexivity.

4.4.3.5 Reflexive Action Research

In section 4.3.3.5.3, I look at the possible two-level nature of the course for accreditation. I think that it would be interesting to consider a piece of 'reflexive action research' as the basis for the Diploma level, where students justify a plan of action based on critical reflection of earlier practice and then, as with action research, undertake critical reflection in practice through interactive and spiralling processes of encounter, dialogue and reflection (O'Donoghue, 1996), testing out their theories in practice. At this level, the students would need to demonstrate their ability to relate their work to educational theories and justify any development of educational methodologies within their own work situation, showing how their action which is informed by a practical theory may in turn inform and develop the very theory which informed it (Kemmis, 1993 and Usher *et al*, 1997). It would also address what Robottom (1987) termed the gap between what practitioners think they are doing and what they are actually doing, albeit from a reflexive point of view rather than the enlightenment from false consciousness. It would require a longer period of time, the opportunity to work *in situ* and a regular, participatory, supportive forum for the 'dialogue'. These conditions are made possible in the semi-distance learning nature of the RU course which removes the "boundaries of space and time" (Janse van Rensburg, 1995a:3) of traditional distance learning courses.

4.5 DISTANCES EXTENDED BY TEXT AND LANGUAGE

4.5.1 Introduction

Continuing with the metaphor of 'distances', this chapter explores the ways in which text and language can, unintentionally, extend the distances encountered in distance learning between learner and tutor and between current practice and innovative training. This chapter provides a summary of the findings regarding second-language English students' experience of the text and the medium of instruction within the Zanzibar RU course. It explores the potential for future course development to encourage a critical orientation to knowledge-building and meaning-making through the use of open, dialogic text and an 'additive multilingualism' approach to the languages of learning. It also posits the potential for both additive multilingualism and the use of additional symbolic mediums, apart from the written word, in encouraging and assessing critical reflection in the course.

4.5.2 Findings on perspectives on knowledge-building and text production within the Zanzibar RU Course

4.5.2.1 Introduction

The theme of the distances furthered by text and language emerged from the data analysis; it was not part of the original framework of analysis (see 3.2.2.5.ii). I have chosen to present and explore the analysis of these findings because of the very inconsistencies emerging from the findings from students, the course coordinators and myself. It is an issue which the students and I grappled with on a daily basis throughout the course.

4.5.2.2 RU course developers' perspectives

The interest in *critical reflection* promoted in the RU course is based on a *view of knowledge as socially constructed*:

> The social construction of meaning refers to the idea that reality is not out there for all people to discover in exactly the same way, but that people actually construct their understanding of the world among themselves, within the life experiences of everyday social interactions (Orientation notes, 1995).

The purpose of critical reflection was encapsulated in the following:

> if knowledge and value systems are seen to be socially constructed, they are likely to appear open to change: change which may lead to the widespread but complex shifts in thinking needed (Janse van Rensburg, 1995:6).

Critical reflection would allow for:

> a revision of current knowledge and approaches to knowledge and education, for an examination of the contributory role of these in the environmental crisis, and for a co-construction of new ways of thinking about and acting upon environments (2).

This view of knowledge influenced the process of *text production* within the course:

> The open file format was a considered choice in keeping with the conceptual framework, reflecting a view of knowledge as open-ended and contextual and (of) students' and tutors' participation in continuous writing of text… The file format also allows participants to add their own materials which they may collect during the course, and to photocopy sections for others in the

> interest of sharing ideas, receiving feedback and supporting environmental education, hence the label ‘a living file’ (SARUGE, 1998).

The extent to which a student made his/her file a ‘living file’ was also used as a way of assessing a student’s involvement in the course. Selections of texts were included in the file to reflect the variety of discourses on environmental education. I interpreted the style of presentation of the text in the following way: the selection of, and the lack of guiding comments on, the texts aimed to provide an open approach to text production; the aim was to open up issues and not to bias, lead or direct discussion and analysis. It aimed to encourage the understanding of the co-construction of knowledge through the co-construction of the file.

The assignments were also designed to encourage the students’ critical engagement with the text. Assignment Three, for example, required an explicit demonstration of this engagement, motivating an exploration of educational theory within the context of their practice or the practices of others around them:

> Outline your understanding of environmental education, the educational aims of any environmental education project/programme of your choice, and the principles that guide that project/programme. Comment on the relevance for this project/programme of international guidelines for environmental education (Zanzibar RU course file, 1995).

Although I subscribed to this epistemological orientation, I needed to work towards a clarification of its aim within the framework of the Zanzibar RU course. I was concerned about how the presentation of the text and the design of the course file could address the following challenges:

i) the students’ unfamiliarity with a critical orientation towards text and knowledge as a result of their formalist educational background (see 2.8.2.3), and

ii) their low level of English which created barriers to engagement with text in the file and their articulation of ideas in the written assignments (research diary).

4.5.2.3 Students' experiences

The students found the *file structure* confusing and difficult. None of the students added to their own individual files, thus making them into living files – although we did identify and collect locally appropriate materials when I organised this as a group activity. Certain of the students' assignments were also chosen to provide an exploration of local environmental issues as part of the file itself. The students did not feel that the file format encouraged individual home study. They requested tutor mediation to find their way around the file and the course structure. They felt lost in terms of the sequential development of themes in the course and requested a timetable, which would make this explicit for them. The students also found the dense discourse and language in much of the text inaccessible for their level of English proficiency. Rather than opening up discussions on the issues raised in the file or encouraging responsibility for learning to be located with the learner, the students seemed to be discouraged from exploring further in the file. The students seemed disempowered and distanced from knowledge-making by an inability to interact with that particular form of text production. Rather than being open-ended, I felt that it 'closed' the text to students' discourse. Similar reactions to the file format and the inaccessibility of the texts to English-second-language speakers were also noted in the SARUGE report (62).

There was very little *engagement with text* on the part of the students, unless directed by myself or required by an assignment. A clear example of this can be shown by the results of their attempts to address what was demanded of them by Assignment Three (detailed above):

Out of 12 students who completed the assignment:

> 6 students answered only the first part of the question and did not attempt to link their analysis to the available literature;
> 4 students were able to link clearly the literature and their local experience;
> 2 students attempted to do the same but the links between the literature and experience were weak and unjustified.

Why did half of the students not attempt to reflect on the literature? I recorded in the research diary that there were three main factors at play:

i) a language problem with students not understanding the question;

ii) a conceptual problem where the majority of students interpreted "comment on the relevance" as meaning "find examples of", a task to which they were more accustomed than that of a critical engagement with what they considered to be unquestionable, internationally accepted guidelines for environmental education;

iii) an interface problem where the design and presentation of the text in the file - rather than being perceived as open-ended - paradoxically 'closed' the text to students because of the inaccessibility of its language and terminology to second-language learners and because of the lack of guidelines as to how to approach the reading and study of such text. Its style of presentation assumed a certain approach to the study of text which was inconsistent with the cultural history and context of the students.

4.5.3 Findings on use of English as the medium of instruction

4.5.3.1 Introduction

The medium of instruction for the course was a mixture of English and Kiswahili. The core text was studied in English. The students translated text, such as the international guidelines for environmental education, into Kiswahili. Discussions aiming for a critical study of ideas were generally held in Kiswahili. Assignments were drafted and written in English.

4.5.3.2 RU course developers' perspective

The RU course supported a flexible approach to language use in the learning process; however, there was no explicit orientation to language-in-education issues. During their visits to Zanzibar in 1995 and 1996, both Jim Taylor and Eureta Janse van Rensburg, two of the course developers (see 3.3), were concerned about the amount of translation and discussion in Kiswahili of a course which was to be moderated in English. Their comments reveal the complexity of the issue and the inconsistencies inherent in their viewpoint:

> (The tutor) should be cautious of always making complete translations of discussions into Swahili. The opportunity for translation should be kept open to immediate needs. Excessive translations into mother tongue can inhibit students whose English is weak as they tend to rely on the translation and refrain from learning/grappling with the English (Taylor, 1995:6)
>
> Prior to (the second island-level workshop of the course) the students had translated into Swahili the principles for environmental education from the NGO Global Forum … each student was given an opportunity to read a translated principle and this was followed by discussion. The discussion was undertaken actively (in Swahili) by the students who were not afraid to raise contentious issues for debate (6).
>
> The need to do readings and assignments in English presents an obstacle for only some students…I support the suggestion that the course be presented through a mixture of English and Kiswahili ... adequate support for less-able students should be balanced by active discouragement of ‘hiding behind’ language barriers (Janse van Rensburg, 1996).

4.5.3.3 My own perspective

I found myself struggling with priorities: which was more important, that the students be able to express themselves in English or that they be encouraged to think critically? Were they mutually exclusive? The majority of students came from a formalist education background and were unfamiliar with a critical orientation. I found that the discussions were more inclusive for all students when held in Swahili; discussions were richer and comment more incisive. Language expresses theories and concepts; it also helps to develop them. I felt that the students needed to develop those concepts in their mother tongue initially before finding the right English words to accommodate that concept. I was concerned that the converse of that process would, paradoxically, put students in the situation where the available English terms were constructing meaning for them. My concern was based on the fact that the students assimilated technical terms uncritically (research diary). The following series of events raised several important issues for me:

> During a discussion with one of the study-groups, I commented that NA had written in his assignment in English that it was his objective to "educate people". When I asked him in Kiswahili what this meant, he said that people needed to learn more about the environment and it was his job to help them. When I asked him how people would learn, he told me that they knew many things already and he and they together could find out what more they wanted and needed to know; he said that he often learnt a lot from the people in this sharing process and he learned how to help them learn. I explained to him that this concept was not automatically conveyed in the phrase "to educate people" in English and in fact could convey a very different concept, such as that of transmission teaching. We had an interesting discussion about the fact that the Kiswahili term for 'to learn' can be "kujifahamisha" (to explain or make clear to oneself) or "kujielimisha" (to teach oneself); the process of learning and education as conveyed in the Kiswahili terms was one of active learning. When NA then asked which words would convey his meaning in English we discussed the terms "to learn together", "to facilitate learning".
>
> In a subsequent assignment, KAm (another student who had been present during this discussion) wrote that it was his job to "facilitate people" and he listed the ways he was going to do this; these approaches were top-down, transmission teaching from the educated to the ignorant; his claimed participatory approaches were in fact a way of "facilitating" people to do what he thought appropriate (research diary).

The exploration of what NA was trying to say in English by discussing the concept in Kiswahili helped him to express himself better in English. The discussion of the Kiswahili term also enriched the discussion by getting us to think about what environmental learning processes should be about i.e. the difference between environmental 'education' and 'self-learning' or 'self-clarification' about the environment. If I had not questioned his meaning, I would have interpreted his use of the word ‘education’ from my own cultural and linguistic perspective. However, the experience also showed that KAm, following this discussion, attempted to assimilate the term ‘to facilitate’, in order to comply with what seemed to be the preferred discourse of the course, without fully understanding the concept embodied in the term. Hence, he used the term ‘facilitate’ when he actually did mean ‘educate’ in a behaviorist, instrumentalist sense.

4.5.3.4 Students’ perspective

There was a mixed response from students concerning the medium of instruction. All students agreed that for credibility and international recognition, the course should be conducted and moderated in an international language. However, certain qualifying statements were made in further discussion of this issue:

> it is difficult to show how much we know in English, there needs to be a flexibility (in the use of language); it depends on the tutor (MA);

KM felt that if the tutor could not speak the mother tongue language of the students then there would be:

> cultural influences on the language barriers;

meaning that it would be difficult to enrich the learning process with mother tongue concepts and that they would have difficulty explaining themselves when the meaning was conveyed symbolically in the mother tongue words they would choose. This is what SA meant, and gave an explicit example of, he claimed that:

> if there is no understanding in Kiswahili, we lose the “utamu” of the course;

“Utamu” is a Kiswahili term, which literally means “the sweetness” and is usually used to describe food. Here it was being used to express the richness, sweetness and pleasure of critical, controversial discussions which were held in Kiswahili during the course – as opposed to the unclear, limited critical reflection within the written assignments. NA also expressed the complexity of understanding a concept unfamiliar to them through their second language:

> “critical reflection” – they are only two words, but they have a very deep meaning (NA);

this comment referred to a long and intensive discussion which had occurred in Kiswahili when we were attempting to come up with a translation of the term for them for their glossary. This was a learning process for all of us because as I attempted to describe the concept in other ways, the students suggested several terms which I had never come across before in Kiswahili. I could not be sure that these were appropriate terms. The grappling to find the most appropriate terms involved us in an in-depth exploration of not only what critical reflection 'meant' but when, why and how it would be used, whether it was something that the students already did in other areas of their life and whether they saw it as appropriate to the environmental learning process.

KAm's comment that:

> we need more materials in Kiswahili to solve the problems with language; environmental education is not to educated people only (KAm);

opens up the issue of language and power. KA felt disempowered and marginilised by the fact that all text was in English; he maintained that English should be the language for instruction and moderation as it was the key to further studies but that it should not be exclusive of the use of Kiswahili.

4.5.4 Findings on the use of English as the medium for assessment

4.5.4.1 RU course developers' perspective

The course assignments provided the major strategy for assessment of the RU course (see 4.3.2.2). By rooting the assignment task in the workplace of the student, the RU course aimed to involve the students in contextualised, work-based learning which required a critical engagement with the text of the course.

4.5.4.2 Students' accomplishment in assignment writing

The preparation and moderation of the assignments was problematic due to some of the students' difficulties with the English language and the fact that this was the first time they had been requested to articulate within a written piece of work. In Assignment Two, in 6 out of the 12 assignments, the moderator found the English difficult to interpret and therefore a barrier to understanding and appreciation of the students' work. These were some of the moderation comments:

> poorly written;
> please do proof-reading to make sure that all sentences make sense;
> the Conclusions section has too many mistakes to be easily read;
> I am sure that you make some very good observations and points but I cannot really comment on them;
> unclear (in terms of language and structure) but did use a range of resources.

4.5.4.3 My own perspective

Even if the students were aware of the ideas behind their practice, there was a language barrier in trying to articulate that clearly in a written assignment. As a result of these moderation comments, I decided to intervene in the English presentation of the assignments. I reworked some phrases with the students, aiming to be as faithful to the original intention as possible and thus enabling the external moderator easier access to the ideas held by the students. I found this a challenging issue for moderation (see 4.3.1.3). If I intervened in the writing process, correcting the English and suggesting ways for articulating more clearly, I wondered how much I was influencing the final product; and yet that very process led to improved assessment by clarifying what was intended by the student (see the anecdote mentioned above). It also emphasised the work-in-progress nature of the assignments and the concept of assessment as learning, as each of these discussions led to new ideas and a re-drafting of the text. However, it was a time-consuming process to find out the nuances of a word chosen by the student to express a Swahili expression (with its cultural history and associations). Could these expressions be effectively translated? Did the 'correct' English version lose depth and nuance? Did it threaten to convert original ideas and demonstration of levels of capacity into token 'lip-service' to the discourse of the course or myself?

> What happens in the situation where there is a student who can express their ideas well in English but has not challenged themselves critically and a student who has struggled internally with an issue and has

> clarified important concepts in his/her own practice but cannot reflect that in written English? (research diary).

I was concerned because two of the students in particular had taken up the challenge to critically reflect in public on their own practice and yet they were not able to reflect this within the written assignment. The following are examples of their tutorial comments

> What was missing in my programme was my own lack of experience and understanding of what community participation really meant; I need to learn and not go into the community with my own set of questions (translated, KAm, from research diary);
>
> The problem was not the awareness of the community but my own awareness of community management (translated, SY from research diary)

Additional mediums for encouraging and assessing critical reflection

In the light of the above, I felt that other mediums apart from the written word should be explored to encourage and assess a critical approach to knowledge and text. This following section is an account of how reflection on one strategy for encouraging understanding and critical reflection led to the development of another strategy, on the part of one of the students in fulfillment of his final assignment.

‘Encountering’ concepts in the field

An interactive classroom activity to assess students’ understanding of O’Donoghue’s four-dimensional model of the environment in relation to the text on global environmental problems, showed that that the majority of students found it difficult to understand what was meant by the economic and political dimensions (materials diary). This led to the design of a local ‘encounter’ exercise (attached as Appendix 2) which took students out in the field where they interviewed community members, local leaders and government officers. The discussion resulting from the fieldwork showed that the group spontaneously identified economic and political factors in the environmental issue explored but did not ‘name’ them as such. The ‘naming’ of the concept enabled them to refine their discussion. They now felt that the concept was a useful and appropriate tool for analysing environmental problems, local or global, and were confident in the use of the terminology.

Written assignments were also built around the specific projects in which the students were actively involved. Janse van Rensburg (1996) found that this

> allowed for abstract concepts signified in a foreign language to be made real to practitioners in their daily activities.

Interactive resources and resource-making

KAb chose the afore-mentioned experience as a basis for his resource development project for assignment 5. In this assignment he wrote:

> It was somehow difficult for (the students) to understand those issues due to the fact that they are not common in Zanzibar and the language used was English which is not a mother language/common language for them (his emphasis).

He developed an interactive poster (see fig. 5) concerning a local environmental problem which indicated the four dimensions and against which his fellow students had to place cards defining different factors involved in the cause and solution of the problem. The exercise was critically reflective, community- and practice-based (see 4.2.5.3); however, the important feature was its interactive and dialogic nature (see 4.2.5.3.6). The interactive nature of this poster promoted peer-group assessment of their own understanding of the concepts introduced as they questioned the placing of the cards.

Interactive exercises and resource making were used to encourage students to engage with text and concepts. The visualisation, physical handling and processing of information by the participants rather than the tutor draws heavily on participatory learning approaches (Chambers, 1994) and encourages students to actively construct their own knowledge and learning based on their experience. It enables a rich form of ongoing formative assessment, which draws on mediums for expression of knowing or ‘meaning-making' other than that of the written language. Such exercises were in the form of:

- posters or cartoons produced by the students to explain the concept;
- prioritisation mapping to introduce controversial discussions concerning the possible solutions to environmental problems and
- card games where students match cards with statements to particular environmental ideologies or educational theories (drawn from the WWF UK, 1992 *Reaching Out* environmental education teaching materials developed by John Huckle).

4.5.5 Discussion on reducing the distances extended by text and language

4.5.5.1 Introduction

The epistemological orientation of the RU course draws on critical theory's view of the socially constructed nature of knowledge. Freire (as quoted by Evans and Nation, 1989:245) advocated a move away from the "pedagogy of the answer" to the "pedagogy of the question".

> The pedagogy of the answer ... lacks any profundity of thought and cannot stimulate and challenge learners to question, to doubt and to reject.

The findings of the study on the Zanzibar RU course raise questions as to how to develop a socially constructed view of knowledge through the semi-distance learning mode, with students for whom English is a second language and who are unfamiliar with a critical orientation to education.

4.5.5.2 Open and dialogic text

There is considerable debate in the literature on distance learning about the dangers of subjugation of learners by text and distance. Evans and Nation (1989b:245) wrote that:

> The knowledge production of distance education is shaped and mediated by and through the forms of text production which constitute distance educational practice.

RU course developers wanted to avoid presenting knowledge as an infallible given, to be consumed unquestioningly in order to progress up the ladder of life (Janse van Rensburg, 1995a). And yet, the findings show that

i) the format of the file served to close rather than open students' discourse on the text;

ii) the cultural orientation and assumptions of the style of presentation of the file and the text within it reproduced and legitimated "the dominating/dominated dichotomy between teachers and students"(Evans and Nation 198:246); it did not lead to self-directed study, rather more a dependence on the tutor as an intermediary;

iii) students found the text inaccessible and unassailable; the knowledge was encased in what they perceived as unquestionable technical terms which they appropriated uncritically.

The texts in the course file were obviously meant to be 'open'; it seems that cultural and theoretical assumptions which have been made about the presentation and the study of text in Zanzibar, resulted in a distancing of the student from self-directed study and the co-construction of knowledge (O'Donoghue, 1996). Guy (1990:50-51) argued that

> text is a matter of a theory of institutions, as well as a theory of symbolic systems and specific signifying systems. Text represents preferred discourses … Appropriate and sensitive texts (should) be created within all cultural contexts of distance education (50-51).

Good course designers are sensitive to the 'fit' between their designs and the cultural situation of the students (Plant, 1997). At the same time, there is a need for creativity and sensitivity in the selection and presentation of open, dialogic text; it should involve carefully-worded questions and activities based on the text to encourage interaction and discussion with the text:

the open text … is a process of activity rather than a dead object ..Texts can be open to the continuing work of transformation, which is a form that teaches activity rather than passive consumption as its message (Wexler in Evans and Nation, 1989b:248).

Following similar findings in the RU/GF course evaluation, changes have now been made:

> The file format was maintained, but with much clearer directives, demarcations and explanatory guidelines to guide users … The file ... is still open-ended, but has a much clearer structure, one which now works well for 'pathfinding' (SARUGE:60).

A great deal of care has been put into developing open and dialogic text as can be seen from the 1998 Orientation notes:

> The core texts are part of a conversation – a serious, lively, ongoing conversation about responding better to the environment crisis. The core texts are our way of drawing you into this conversation. Take the ideas offered, and talk back. Talk in your head, talk with others, write thoughts and queries onto the pages of the core texts. In this way, add your voice, and your ears, to the vibrant, important discussion (10).

In order to avoid conceptual overdeterminism and reflection limited to a critical theory perspective, as can easily happen given the compelling nature of critical theory and socially critical environmental education (see 3.4.1.2), I think it is very important that the 'open' nature of the text is constantly revisited. Care should be taken with the way in which questions are framed so that they are not 'leading'. Students are quick to pick up preferred genres of response (ELTIC, 1997) i.e. what they think is the kind of response to a text expected by the tutor and moderators. Critical reflection should mean a critical engagement with all theories, even the one on which the course is based i.e. there should be constant clarification of what a reflexive orientation means in this context. This should be considered also in the selection of text for, as I have noted elsewhere in this discussion (see 3.4.1.5), "text is matter of a theory of institutions", even though, in the case of the RU course, this particular 'institution' is a loose group of environmental educators showing a particular orientation to teaching and learning (Janse van Rensburg, pers comm., 1999).

The 1998 course orientation seems to aim for this when it states that:

> Understanding of different points of view, and other people's opinions and interpretations and relating them to your own understanding of the core text, and your own practice, will help you to develop a critical understanding (5).

4.5.5.3 Languages of learning and teaching

> Both societal and individual multilingualism are the global norm today,
> especially on the African continent … the learning of two or more languages
> should be general practice and principle in our society.
> Statement by Prof. Sme Bengu, Minister of Education,
> on a new language-in-education policy in further education.
> South Africa. 14 July 1997.

There is much debate in the literature about the need for *a positive approach to additive multilingualism* as part of national language-in-education policies, especially in Africa (Desai and Van der Merwe, 1998; ELTIC, 1997; Meerkotter, 1998; Murray, 1999; Yahya-Othman, 1994). With 'additive multilingualism'[5], two or more languages are used interchangeably in order to ensure effective learning and this is referred to as code-switching (Murray, 1999). From the findings of the study on the Zanzibar RU course, I would argue for an additive multilingualism approach to the medium of instruction – now more positively called "languages of learning" (Murray, 1999) - depending upon the context of the situation in which the RU course was to be introduced. The 'value-added' nature of additive multilingualism can enrich any learning process (see examples in 4.5.3.3 and 4.5.3.4). I argue for this especially in cases where the second language is relatively weak and yet the end result for moderation purposes, and for the purpose of gaining access to further study opportunities, must be in the second language i.e. English. From the Zanzibar RU course experience, I see two main benefits from a positive, explicit approach to additive multilingualism.

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[5] Multilingualism is a term used to express the learning of more than one language, rather than more than two languages (Bengu, 1997), and will be used as such in the remainder of this thesis. Additive multilingualism is defined by ELTIC (1997) as the gaining of competence in a second language while the first language is maintained. In children, it is seen to have a positive effect on social and cognitive development.

Conceptual development

> We did recognise that language shapes meaning as much as it conveys it.
> (Janse van Rensburg in SARUGE:63).

> The development of thinking and concept formation in the first language (should happen) to the point where all knowledge is accessible through that language. The interplay of language and the development of thinking need serious attention.
> Douglas Young (in Heugh *et al*., 1995) on research on multilingual education for South Africa

I felt strongly that students needed to develop or challenge concepts in their mother tongue before transferring that understanding into English and that the translation process enriched and further developed the conceptual learning. Research in Tanzania has shown that very little learning takes place in Tanzanian schools in the medium of English. “

> Cognitive development is most facilitated when the learner can think, write, develop ideas, and discuss them in a language which is well understood (Yahya-Othman, 1994:16).

Research on multilingual education has been undertaken in South Africa as a response to the demand for the recognition of the multilingual reality of the country (Heugh *et al*. 1995). As a result of the research, Luckett (75) advocates a “national additive bilingualism” based on Cummins’ psycholinguistic theory which distinguishes between two levels of language learning, that of ‘basic interpersonal communicative skills’ (BICS) and that of ‘cognitive/academic language proficiency’ (CALP).

> When it is necessary to function at the CALP level, e.g. to use a language in a decontextualised and cognitively-demanding situation as in higher education, then the two languages work together interdependently. This means that the level of competence (one) may reach in his or her second language in CALP depends to some extent on the stage of development reached in his or her first language…it is therefore very important that children learn to think and function in their first languages up to the CALP

> level. This will enable them to reach CALP in the second language as well because the cognitive skills that they have already acquired in their first language are easily transferred to the second language (75).

Christie (also in ELTIC, 1997) agrees that cognitive competence comes first i.e. we must have some grasp of a concept before we can begin to use the appropriate linguistic forms, but she argues that the use of these linguistic forms can then further our understanding of the concept. I argue that this is one of the value-added characteristics of additive multilingualism. I think that the examples from the findings of the discussions of the concepts of a four-dimensional view of the environment (see 4.5.4.3) and of critical reflection show how conceptual development was enhanced by code-switching. A similar positive experience was found during research on code-switching in a secondary school in Guguletu, South Africa (Meerkotter, 1998:262):

> It is clear that the phenomenon of code-switching had considerable impact on the learners. The positive learning atmosphere created by the teacher in the class was further enhanced by the freedom allowed to the learners to switch between different codes, in this case Afrikaans. Xhosa and English. Difficult concepts were better understood, and learners felt at ease to put questions to the teacher. If the lesson had been conducted only in Afrikaans, it seems apparent that learners might well have been inhibited from taking part in the discourse of the classroom.

The findings of the study on the Zanzibar RU course suggest that there was a flexible approach to the medium of instruction. However, an orientation to mulitlingualism needs to be positive and explicit. The findings also show how I grappled with this issue. Lack of clarity in the RU course orientation, and the feedback from course developers at the time (see 4.5.3.2), made both the students and myself question and be concerned about the use of code-switching during the learning process.

Cultural enrichment of learning

This vulture on my culture has long begun
to tamper with my temper
but my wit will not quit cracking the whip until I reap
the vast richness of my inheritance.
Lesogo Rampolokeng,
Rap34, Horns for Hondo (in ELTIC, 1997)

I think that the second 'value-added' characteristic of additive multilingualism for the RU/GF course lies in the enrichment and enhancement of learning brought by the cultural history embedded in different languages. Code-switching should not just be viewed as merely an educational resource, as simply the instrumentalist translation of a term or way of expressing a concept. It is in the very exploration of what Gough (1993) refers to as cross-linguistic influence that additive multilingualism enriches the learning process; where one language is used to show how the other language is different from it. In an attempt to find appropriate translations, there is a process of discovering how saying the same thing involves different things, such as different viewpoints, different symbolic associations dependent on the cultural context of the language; where multiculturalism can enrich learning, as with the exploration of indigenous knowledge. I refer to the examples in the findings of the discussion of the word 'educate' (see 4.5.3.3) and of the word 'critical reflection' (see 4.5.3.4) and how these discussions led us to a questioning of different worldviews and an exploration of cultural alternatives. I argue that such a process explores these cultural contexts and the reasons for their differences and similarities, both emphasising the socially constructed nature of knowledge and providing alternative lenses for the analysis of issues.

4.5.5.4 Languages and mediums of learning and assessment

The findings show that the students wanted the medium of instruction to be a mixture of English and Kiswahili and that the moderation of written assignments be in English. During the Zanzibar course, we experimented with discussion sessions, interactive exercises and 'encounters in the field' in the mother tongue to provide what Cummins (in ELTIC, 1997) refers to as contextually-embedded and cognitively-demanding communicative situations (Cummins in ELTIC: 94). These provided rich environments for encouraging critical reflection and learning. As noted in the findings, these also provide sources of ongoing formative assessment of these learning processes, both in terms of growth of the individual student and the effectiveness or appropriateness of different learning strategies.

As a result of the students' unfamiliarity with a critical orientation, at least in its expression in an academic environment, I also experimented with additional symbolic mediums of expressing knowing (Furth in ELTIC, 1997:81), as well as that of the written word, for the dual purpose of encouraging and assessing critical reflection. Furth argues that language is only one symbolic medium for the expression of knowing and that we must encourage ourselves to look beyond the symbol to the knowing scheme, which lies beneath it. Other symbolic mediums, for him, include actions, images, drawing or drama. As can be seen from the findings of this study (see 4.5.4.3), we experimented in the Zanzibar RU course with cartoons, prioritisation mapping exercises, sorting and ordering exercises, and encounters in the field, as additional mediums for expression. In future I would also explore further the use of discourse analysis (3.4.1.1) of the symbolic medium of language in discussions emerging from interactive exercises in the mother tongue and in the students' written assignments. I think that this is an area that merits further investigation in future RU course development i.e. how to involve other forms of assessment as well as that of the written assignments to demonstrate learners' developing competence.

CHAPTER FIVE

Insights and Contributions

5.2 Contributions to the developing stories in professional development processes in environmental education

5.1.1 The Zanzibar RU course professional development story

In Zanzibar, in 1995, the opportunities for professional development for environmental educators working in the field were minimal. Yet, the demand for professional development was extremely high, especially because of the emphasis placed on formal qualifications in the Zanzibar culture. Status and learning were seemingly inextricably linked and those links were self-perpetuating through the high value placed on technocratic (Robottom, 1987) and instrumentalist forms of professional development, the aim of which was the creation of more 'technical experts'. Environmental education practice in Zanzibar was not achieving its objectives. However, rather than questioning the 'why's' of that failure i.e. questioning the aims and orientation of their practice, the environmental educators desired the acquisition of skills to enable them to perform better. As Robottom (1987b:100) has noted,

> ironically, the beliefs and justifications embedded in the implementation setting (for professional development initiatives) tend to offer reciprocal support to the technocratic perspective of educational change.

In his view, this "symbiotic balance may be understood as a dynamic *stability in the face of change* (his emphasis)" (101). I introduced the RU course into this setting; a non-formal, counter-hegemonic course which encouraged critical reflection on the dominant paradigms in current environmental education practice; a course which focused on individual personal and professional growth - rather than the acquisition of formal qualifications in order to proceed up the ladder towards social mobility (Guy, 1990). This intervention could have been one more example of where an innovative professional development initiative did not fit the cultural context of its implementation setting; or where, even if the professional development initiative is seen as a meaningful learning process on the part of the participants, it remains as a peripheral experience, outside of the particular societal and institutional conditions of the participants' practice.

However, this was not the case. The experience with the Zanzibar RU course has shown that, even within a context which supports a technocratic RDDA approach to professional development, there is potential for opening up pathways for educational change through the introduction of a process-oriented professional development course which is flexible and responsive to the local context. The Zanzibar RU course became, arguably, a case of a *dynamic and responsive process in the face of change.* At the end of one year of participatory semi-distance learning within the course and action research focused on that learning, a decision was made to formally accredit the Zanzibar RU course. This decision did not alter the course orientation or the learning processes within the course, although it did open up several issues for future curriculum development processes. It enabled the students to both access a formal qualification necessary for status and promotion, and participate in a learning process that challenged the dominant paradigm on professional development and status from *within.* The course had a profound impact on the students, who had initially desired a very different form of professional development. As a result, they were convinced that the course should continue in Zanzibar and be offered to others working in the field of environmental education and management; two of the students aspired to be tutors in subsequent courses; other students wanted to have an input in subsequent courses in different ways; discussions began as to how to build in financial sustainability for the course so that it would no longer be dependent on external donor support. I believe that this commitment to the continuity of the course and the sense of ownership of the process was student-driven rather than tutor-driven.

I consider that the Zanzibar RU course was able to have such an impact on the students for two main factors:

i. the reflexive, process-oriented orientation of the RU course and the sensitivity of the course developers who acknowledged that professional development in environmental education is problematic and needs to be 'amenable to change' (Robottom, 1997b), especially in the case of adapting the course to a very different cultural context. As Leach (1996) argues, support in professional development should build on existing frameworks and be consonant with the culture in which it was developed. Formal accreditation of the course could have been seen as supportive of the 'diploma disease' (Dore, 1976) inherent in the dominant paradigm of professional development in Zanzibar. In effect, however, formal accreditation became both enabling and supportive of counter-hegemonic, reflexive learning processes;

ii. the commitment, enthusiasm and insight of the Zanzibar students within the action research nature of the Zanzibar RU course. They were never just passive recipients of the course; they responded actively to the ongoing process of reflection and negotiation in curriculum development; they became the *innovators* in an innovatory process of professional development, reviewing both their own ideological orientations and those of the course. They provided a practical example of what Leach (1996:108) posited, "that knowledge is constantly created and transformed at the intersection of dialogue between people, their collective knowledge and experience, in particular settings and context".

Zanzibar provided a very different cultural context for the adaptation of the RU course. What is interesting, however, is the similarity between many of the findings emerging from the Zanzibar research and those emerging from the evaluation of the RU/GF course. The findings, from which specific outcomes and insights have been drawn as detailed below (see 5.3), also resonate with issues concerning professional development in environmental education currently being debated internationally. In the light of this, I hope that the discussion of the Zanzibar findings may prove useful and even catalytic to:

∗ the ongoing open-ended, deliberative processes (Lotz, 1999; Lotz and Janse Van Rensburg, 1998) in the development of curriculum frameworks for professional development in environmental education in the wider

SADC region through the SADC Regional Environmental Education Project, including the ongoing development of the RU/SADC International Certificate in EE (which draws on the RU/GF course). There has been a demand for professional devlopment courses, similar to the RU/SADC course, outside of South Africa, especially in Malawi, Tanzania, Mozambique and Swaziland, (Ward, M. and Taylor, J., 1999).

- ongoing international deliberations focusing on the growing demand for curriculum development for tertiary level environmental education and training. This can be seen, for example, in the development of UNEP's Network for Environmental Training at Tertiary Level in Asia and the Pacific (Hay *et al.*, 1994), which emphasises the need for networking the development of materials and the implementation of training programmes.

5.1.2 'Distance' as metaphor

I have used the metaphor of 'distances' as a framework for the discussion of the findings of the study. The way in which I use this metaphor reflects the shift in my theoretical orientation during, and as a result of, the research process. The metaphor extended from describing the distances encountered in distance learning between tutor-learner and learner-learner (which were not an issue as a result of the semi-distance nature of the course) to also illuminate the distances involved in the 'traditional dichotomies' (Leach, 1996) in professional development, such as theory and practice, institutional learning and 'everyday experience', aims and assessment, language and conceptual development. As a result of the dynamic interaction between method, theory and results, the image conjured by the metaphor changed along with my theoretical orientation. During the initial stages of data analysis, I was conscious of the need to find ways to "reduce" these 'distances'. However, during the final stages of data analysis, I became much more aware of the socially constructed nature of these 'distances'. A clarifying discussion with my thesis supervisor, on what had been learnt from the use of the metaphor, centred on how the polarity of seemingly fixed oppositional positions was problematic and could, in fact, be collapsed. This emerges from the discussions in the study; for example, on reflexive action (4.4.3.4) as an integrated form of theory and practice and additive multilingualism as a form of enhancing conceptual development in a second language. What I learned most from the use of this metaphor is, perhaps, that we need to accept that our own practice is creating these distances rather than, as we assumed, trying to overcome ones which already existed.

5.1.3 Outcomes and insights derived from the Zanzibar story

Initial findings (4.2.2) showed that there was *a distance between the perspectives on status and learning* on the part of senior management, students, course developers and myself. In Zanzibar, upward social mobility and status was afforded by the acquisition of formal qualifications, which resulted in a rejection of non-formal, albeit work-based and possibly relevant learning processes. Credibility was awarded to courses which reproduced a technocratic and instrumentalist view of professional development; students aspired to the status of "experts". Status played an important role in the effectiveness of environmental education officers' interactions with senior management. The Zanzibar RU course presented an alternative approach to professional development, which valued individual personal and professional growth and did not place a priority on the acquisition of formal qualifications; an approach which questioned the status of, and need for, 'experts' in environmental education processes. The non-formal nature of the RU course challenged the dominant professional development paradigm from *outside* the socio-political context of the students' practice. By formally accrediting the Zanzibar RU course, the research project showed that it was possible to work from *within* the dominant paradigm of professional development in Zanzibar *against* its instrumentalist, technicist and elitist assumptions. The RU course students gained a formal qualification and status through a meaningful learning experience, which, in turn, resulted in students questioning the ideology concerning status and learning i.e. to what they aspired in professional development in environmental education (4.2.4.2).

This outcome led to an exploration of the *distance between the need for career upgrading and the type of learning processes considered relevant to developing appropriate environmental education practice* (4.2.4). Originally, the RU/GF course developers had not considered formal accreditation as a significant issue. I assumed that this implied that work-based, in-service, meaningful learning processes, through the Zanzibar RU course, should happen from outside of formal accreditation because of their critically reflective, collaborative, participatory and practice-based nature. The findings show that it was possible to formally accredit such a course without necessarily changing its critically reflective orientation towards questioning dominant orientations to professional development (4.2.4 and 4.2.5). There are also examples in the literature of such formally accredited, critically reflective courses (4.3.3.2.2). That is not to say that such courses have not met with challenging curriculum development issues as a result. I propose in the study that it is a reflexive orientation to professional development in environmental education, rather than one limited by the critical theory framework, which can address some of the contradictions which have emerged in practice in courses of this nature (see 4.3.3.2.3 and 4.3.3.3.2).

The study also illuminates areas for concern, which, if care were not taken, could cause formal accreditation to alter the nature of the learning opportunity. The accreditation process in Zanzibar revealed the *distance between the non-quantifiable, open-ended and open-to-change aims associated with the RU course and the formal assessment demands for fixed, measurable criteria for evaluation purposes.* The way in which learners are assessed has a powerful effect on how and what they learn and how we teach. This is because what is assessed shows what is valued as worth learning (ELTIC, 1997). As many important and subtle learning outcomes cannot be easily measured, the challenge was to ensure that they would not be left out of the assessment process and, therefore, lose their inherent value. The research process generated outcomes for the formal assessment of the Zanzibar RU course, which were based on the South African National Qualifications Framework, and which reflected the course orientation (see 4.3.2.4). The discussion on assessment (4.3.3) raises issues for future course development, specifically concerning ongoing clarification of the course aims and orientation. It also highlights the challenges for developing innovative and appropriate assessment strategies - an issue of great interest which, due to the limited space available, could not be explored at greater depth within this thesis.

Accreditation and assessment of the Zanzibar RU course involved a review of relevant credit values for the course. The RU course has been characterised by its open-entry nature, which offered access to learning for all, and by the diversity of the levels of work produced by the students. The need to categorise its credit value threatens to create a *distance between the democratisation of open-entry courses and the elitism of restricted access inherent in a course of a certain credit value* (4.2.3.2). I propose a possible two-level approach to credit values (see 4.3.3.5.3), whereby all students can access the first year certificate-level course; if able and willing, students can then go on to a second-year Diploma-level course, which involves a continued and deeper engagement with the learning of the first year through a reflexive action research project. The determination of credit value for the course also threatens to maintain the traditional *distance between a focus on individual personal and professional growth and the attainment of a certain normative grade.* The findings (see 4.3.2.6.2) show that it is possible to monitor and assess individual growth within an outcomes-based evaluation framework and they raise issues for ongoing deliberation over formal assessment within the RU/GF course (4.3.3).

Research on the process of assessing the Zanzibar RU course also highlighted the need for future curriculum development processes to address why many students were not encouraged or helped to critically reflect on their practice. One of the main reasons, the research findings showed, was the perceived *distance between theory and practice* experienced by the students in the course (see 4.4.2.3). Although the RU course subscribed to a view of theory and practice as integrated, the course did not enable the students to fully experience this. Learning was indeed rooted in the local context and the course materials encouraged reference to local experience (see 4.5.4.3). However, there was an assumption that students had experience, or an understanding, of the different environmental education approaches presented for critique within the course. In certain instances, critical reflection became the discussion of abstract theories removed from practical experience (4.4.3.3). I argue that the RU course focuses on only the first of Habermas' (in Kemmis, 1988) three functions in the mediation of theory and practice i.e. that of critical reflection *on* practice, and should also focus on the second function i.e. that of testing one's practical theories through action in one's own situation (see 4.4.3.2). I propose that, in future course development, opportunities be provided for encounters in the field, exposure to new methodologies and reflexive action (4.4.3.4) in order to reduce the perceived distance between theory and practice within the course itself.

Finally, the study explores the ways in which text and language can, unintentionally, extend the *distances encountered, especially in distance learning, between learner and tutor and between current practice and - innovative training.* Text is a matter of a theory of institutions and represents preferred discourses (Guy, 1990). The style of presentation and the choice of text in the Zanzibar RU course file, rather than being experienced as 'open-ended' (Orientation notes, 1995), were found to be contributing factors in the 'closure', or inhibition, of the Zanzibari students' discourse on, and engagement with, the text (see 4.5.2.3). The study explores *the distances between aiming to encourage the critical reflection capacity of students and sujugating the students by text and distance* (Evans and Nation, 1989). Similar findings emerged from early evaluations of the RU/GF course and have led to the development of a clearer structure to the course file and more dialogic text (SARUGE, 1998). I emphasise the need for these course materials to be 'open' as well as dialogic (see 4.5.5.2) in order to avoid conceptual overdeterminism (Lather, 1986b). The study also explores how a positive approach to 'additive multilingualism' can enrich conceptual development, especially important for second-language learners who are unfamiliar with a critical orientation to learning processes. I argue that code-switching should be exploited as more than an instrumental tool for translation and comprehension. It can also be used to explore the ways in which different languages express a concept in order to emphasise the socially constructed nature of knowledge, enrich our understanding of concepts and provide alternative lenses for the analysis of environmental issues (4.5.5.3). I propose, in addition, that discussions on “assessment as learning” (Lotz and Janse van Rensburg, 1998:17) can be further enhanced by the use of additional symbolic mediums, apart from the written word, in encouraging and assessing critical reflection in the course (see 4.5.5.4).

5.1.4 Contributions of the Zanzibar RU course story to ongoing professional development in environmental education initiatives in the SADC Regional Environmental Education Programme (SADC REEP).

The ongoing curriculum deliberation within the SADC REEP (Lotz, 1999:5) sees the development of curriculum frameworks for environmental education as an “ongoing, reflexive process of adaptation and change in the context of the course, and in the supportive company of others”. These deliberations draw on the educational experiences of many environmental educators in the SADC region and highlight some of the key features of curriculum processes which arise from their curriculum development experience in diverse settings, shaped by history and context. The project aims to “provide some clarification on key elements within a developing story of curriculum processes among adult learners”(8). To this, I would like to add the story of the Zanzibar RU course experience, which took place in a very different setting, shaped by history and context and which I hope can contribute to the ‘opening up’ of different possibilities for curriculum processes amongst adult learners.

The SADC REEP (1998:12) currently identifies a range of features that influence curriculum design and course processes. The findings support the importance placed on the need for responsiveness, a flexible course structure and participation. I discuss the problematic nature of praxis from within a reflexive course orientation and propose that the notion of ‘reflexive action’ (see 4.3.4) be taken further in curriculum deliberations. The findings also support the need for an approach to assessment as ‘assessment for learning’ and I recommend the investigation of the use of additional symbolic mediums, apart from the written word, in order to encourage and assess critical reflection (see 4.5.5.4). Finally, I argue that the issue of languages of learning deserves to be considered as a key or orienting feature to curriculum processes, rather than being identified only as an issue for the improvement of reading and writing within the course (see 4.5.5.3).

5.2 What I have learned about doing research

A tentative post-positivist critical orientation influenced the research design and my choice of action research and critical ethnography as the two methods for this study. My position was tentative because I questioned the notions of enlightenment and empowerment central to critical theory. I shifted to a tentative reflexive orientation during the data analysis stage as a result of wider reading of the literature and reflection on the research process and findings. These reflections included:

- that selective reading of literature can take place during the research process i.e. where one reads for what one wants to find and does not necessarily involve oneself in a thorough re-search of the history, context and intellectual foundations of certain readings (see 3.4.1.5);
- a realisation that I was interested in a postmodern view of multiple voices and multiple realities (Tilbury and Walford, d.u). I found that, although action research draws out differences of opinion among the participants, its focus on facilitation of a common way forward (see 3.4.1.4) can limit the expression of diversity. I also found that, although action research aims at participatory validation of practical theories generated through the research, critical reflection can be limited to the goal of Habermasian consensus-making within the framework of its own worldview (Agger, 1991; Lather, 1991; Leroke, 1994);
- that, within a reflexive orientation, triangulation (Lather, 1991; Mathison, 1988) can capture the multiple realities which exist by studying when and

why there are differences in findings, rather than being used as a tool for establishing the credibility of findings;

* that discursive dialogue with research participants becomes problematic when the ‘sites of intellectual production and distribution’ (McLaren and Giarelli, 1995) demand a certain level of specialised vocabulary which is not accessible to the study group in question;
* how text represents a theory of institutions (Guy, 1990) i.e. that the choice of readings which are made available to students during an academic course, especially within distance learning, can promote certain forms of knowledge production (see also 3.4.1.5);
* that the dialectical development of theory, methods, results and practice had become a lived experience. Reflection on theory and methodology influenced the generation of theories from the data which, in turn had implications for practice in the RU/GF course (see 3.4.3).

Finally, I found that the journeying of the research process was not so much about roads, or places, or maps but rather the ‘conditions’ for that journeying. Struck by the metaphor used by Usher (1997) which describes the ill-defined ‘moorland’ of educational processes, I saw myself journeying within that moorland. As I began reading and reflecting, it was as if a heavy mist rolled down over the moors. No map in my hand could now be definitive; features in the landscape changed perspective; what appeared firm underfoot often gave way. Journeying to situate myself within the conflictual intellectual terrain of research (Lather, 1994), became, and still is, more a matter of sensing my way. This brought discomfort and a certain anxiety but also with the mist comes a heightening of the senses, an awareness of signs and a keenness of spirit (see 3.4.2).

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