

Contextualising learning in Advanced Certificate in Education (Environmental Education) courses: synthesising contexts and experiences

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We report on experiences in the Advanced Certificate in Education (Environmental Education) courses of two South African universities, namely, Rhodes University and the University of South Africa. We focus specifically on the whole school approaches which were influenced by a project between these two universities and Manchester Metropolitan University. We illustrate how contextual profiling influenced the perspective or entry point from which the whole school message was approached in the ACE (EE) courses. Through illustrative examples from these two courses, we report on two different approaches to contextual profiling, starting by problematising an approach that relies solely on a priori contextual profiling. We then illustrate how this approach can be complemented by contextual profiling within courses and within context through situated learning processes.

Keywords: contextual profiling; EE; situated learning; South Africa; whole school approach

Introduction

Course designers need to understand the context within which their teaching and learning programmes will be used (Hall & Kidman, 2004). Likewise, for environmental learning to be meaningful, the context in which the learning takes place needs to be determined and taken into consideration. A key consideration in this article is how *priori* contextual profiling, as a process by which contextual complexities are identified, can be used to inform course design.

The contextual complexities were considered at macro (international and national), meso (provincial), and micro (local) levels. Factors that were taken into account included

- international developments which influence environmental education (EE), such as the United Nations Decade of Education for Sustainable Development (UNDESD) 2005–2014 and the Ecoschools movement
- environmental and education policy, professional development accreditation and school management systems in South Africa at a national level
- challenges facing the South African Department of Education's curriculum support staff and teachers and INSET policy at a provincial level
- classroom and community realities at a local level
- the type of environmental circumstances to which students are exposed
- environmental issues and risks at all of these levels.

The underlying assumption is that these factors affect the way EE courses are developed and delivered in South Africa. They therefore need to be considered to ensure that courses resonate appropriately within their contexts.

The contextual profiling research was conducted by two South African universities, namely, Rhodes University (RU) and the University of South Africa (Unisa). The findings of the contextual profiling led to a review of the design of the Advanced Certificate in Education (Environmental Education) (ACE [EE]) courses offered by both universities.

A second focus in the article is how contextual profiling (and other contextualising activities and approaches to learning) can be used *within* courses and *within* context through situated learning processes. This focus arose from a challenge to use contextual profiling solely as a tool to decide on course design. According to Flyvberg (2001), a deterministic approach to contextual profiling may prove inappropriate as it is unrealistic to predetermine appropriate responses to contextual concerns given the dynamic interplay between context, actions and interpretations. When applied to the development of EE courses, these ideas imply that there should be an open-endedness in course design where students are introduced to contextually informed propositional ideas and case studies which they use as a foundation to explore their own contexts and appropriate responses through situated learning processes.

The authors of this article contend that the combination of contextualised course design and situated learning processes with associated contextualising activities enables teachers to play a noteworthy role in developing their knowledge and abilities and the ability of their learners to respond to changing socio-ecological contexts in their communities. Contextualised course design provides appropriate and contemporary steering ideas and propositions. Situated learning processes, incorporating contextualising activities (such as contextual profiling) and contextualising approaches to teaching and learning *within* courses, assist students to work these ideas and propositions *into* their own context. In the following sections we explore in some detail the key ideas that have influenced our understanding of situated learning.

Locating situated learning within the framework of contextual profiling and active learning

Our notion of situated learning is informed by Lave and Wenger (1990) who argue that knowledge is generated in authentic community settings (Uzzell, 1999; Elliot, 1999) and should incorporate social interaction and collaboration in the process. The latter can be achieved through contextual profiling (an outlined view that is dependent on context) which is an epistemology proposed by Brown, Collins and Duguid (1989). They emphasise that the need for an active perception of concepts and representation stems from the argument that “learning and cognition ... are fundamentally situated” and that we cannot separate “*what* is learned from *how* and *where* it is learned and used [our emphasis]” (*ibid.*, 1989:32). Local investigations and responses in this framework enable learners to situate their learning in what Brown *et al.* (1989:34)

refer to as “authentic activities” or the “ordinary practices of the culture”.

O’Donoghue (2001) draws on Fien (1993) to propose a framework for active learning which supports learning activities that engage environmental risk and concern through a process of

- finding out and sharing information about an environmental focus
- undertaking investigations in local surroundings
- doing things for a healthier and happier world
- reporting and reflecting on actions.

This framework offers the opportunity for the learning activities to engage issues in local context in ways that *make a difference* in learners’ lives and the lives of others, thus linking to the notions of ‘authenticity’ and ‘ordinary practice’ in situated learning discourse.

‘Whole school’ (WS) or ‘whole institution development’ is another approach to teaching and learning (and school management) which can promote and sustain situated learning. A WS approach integrates the formal curriculum, social/organisational aspects, institutional practices, evaluation and community links (Shallcross & Wals, 2004). In WS approaches, learning takes priority over teaching and occurs through a variety of modes such as modelling, observation and replication (Wenger, 1998). To some extent learning in WS contexts, especially values education, becomes an almost subliminal, second-natured process. Lave and Wenger (1990) dissociate most formal schooling from this situated notion of a community of practice, because most formal education results from the dyadic, authoritarian relationship that teachers have over learners. It is not too difficult, however, to extend this concept of communities of practice to the situated model of teacher professional development and the notions of whole school approaches outlined in this article.

Whole school approaches and situated learning

In WS approaches, students are legitimate participants in schools that function as communities of practice. Situated learning offers the prospect of a synthesis of behavioural approaches with their emphasis on stimuli from external environments and constructivist approaches based on socially constructed learning (Greeno, Collins & Resnick, 1996).

In the context of this study, WS learning illustrates a mutually supportive process of international contextual profiling and some degree of international policy transfer (Phillips & Ochs, 2004) or policy translation (Shallcross, O’Loan & Hui, 2006). In the development of RU and Unisa’s ACE (EE) courses, some of the WS development materials were based on a British Council Higher Education Links Project (Promoting sustainable development through whole school approaches) which involved the Institute of Education at Manchester Metropolitan University (IoE MMU), RU, and Unisa.

One of the objectives of this British Council project was to translate and adapt WS development materials from the SEEPS Project, a European Commission teacher education project that was co-ordinated by IoE MMU, for use in Unisa’s and RU’s ACE (EE) courses. The WS development approach advoca-

ted in the SEEPS Project was a guiding policy or philosophy for EE shared by all the participants in the British Council Project. Policy translation in this context was unmistakably influenced by meso or national contextual profiling and affected the perspective or entry point from which the WS message was approached (Shallcross *et al.*, 2006). In SEEPS, the diversity of European education environments — for which the project was intended — meant that it was left to individual schools or education authorities to decide which of the five strands of WS approaches (i.e. curriculum, school culture, institutional practice, community links, or evaluation) would be the starting point for WS development plans. In South Africa, it was clear that WS development would be located initially in and then extended from curricular priorities (Department of Education, 2002).

Course design and context

Contextualising course processes

A dilemma with course design, which is based on the outcomes of contextual profiling of educational and socio-ecological issues and risks, is that it is often a 'once-off' affair. It is imperative to also allow for the dynamic of these inter-playing propositions in multi-faceted social realities (Janse van Rensburg & Lotz-Sisitka, 2000). EE courses should *respond* to environmental issues and risks as they arise in diverse contexts. Courses that are developed should therefore *respond* to particular learning situations in different settings (Lotz, 1999:14) and continually review contexts to establish changes and new trends and issues that need to be accommodated.

As course developers, we therefore need to heed the point made by Lotz (1999:18), namely, that

... educators need to recognise that it is virtually impossible to strive for mastery and transmission of an all-embracing knowledge of a field, or of universal 'messages'. We need to recognise the significance of partial or incomplete perspectives, and facilitate ongoing curriculum deliberation processes which enable learners to contribute to establishing the knowledge frameworks of a course or curriculum.

In South Africa, environmental educators have been influenced by socio-critical pedagogy in the conceptualisation of such deliberative processes — for example, the ideas of Giroux (1996) and Freire (Janse van Rensburg & Lotz-Sisitka, 2000), for example, which see the teacher as a "change agent" in dialogue with learners within a particular real-life experience and culture. One can also see a resonance with the open-ended, process-focus of a post-structuralist approach to education (*ibid.*, 2000) in the situated learning process described above. There is also a resonance with the focus on addressing social injustice in initial conceptions of action research (Carr & Kemmis, 1986).

It can be argued that contextual profiling which takes into account the fluidity of circumstances and is used in curriculum design to respond to these situated circumstances is indeed an action research activity which engages

not only with social, but also with situated ecological and economic challenges.

Contextualising course design for the open and distance learning environment: the SEEPS experience

While acknowledging the importance of situated adult professional learning in courses offered at tertiary level, course designers or teachers cannot always be directly involved in the dynamics of continuous contextual interplay and profiling. This is particularly the case in open and distance learning courses and programmes which seek to set up international professional development resources which are relevant to various contexts. In these circumstances, contextual profiling may have to utilise a centralised instrument such as a questionnaire to identify context and variations in context. What is important is that such questionnaires are based on literature reviews that seek to identify contextual variables that are used as items in the questionnaire. In addition, questionnaires need to offer opportunities for open-ended responses so that respondents' answers are not limited to pre-identified variables. An important element of the contextual profiling questionnaire is to be able to obtain an insider's view of the respondents' particular circumstances. It is, however, also important when courses or resources are being developed by, and for, networks to appreciate and utilise the contextual expertise that resides in network members. Constructive interactions in the course design process that exploit this collective expertise are a powerful force for shaping a generic platform for a course or a resource. Such an approach was adopted in the Sustainability Education in European Primary Schools Project (SEEPS) (Shallcross *et al.*, 2000). The generic European element advocated by the SEEPS Project was situated learning through the context of WS approaches.

The SEEPS Project team were of the opinion that the model of professional learning that would encourage WS development most effectively was one that is school focused and integrates substantive, contextual, and personal knowledge. These three knowledge dimensions were addressed in the project by models and/or principles and case studies that are interpreted through activities that draw on personal experiences. It is also important that projects such as SEEPS not only advocate but also model the participation and contextualisation implicit in situated adult professional learning. In order to do this, the SEEPS Project encourages professional learners to synthesise environmental and socially constructed models of learning through situated learning by substituting their own case studies for those provided in the Project. In this way, by synthesising behaviourist and constructivist approaches in a situated model of learning, the SEEPS Project employs a metapedagogy of professional development (Greeno *et al.*, 1996) that addresses the dynamic interplay of propositions in the multi-faceted social and environmental realities of schools.

Methods used for contextual profiling in the South African segment of the study

At a macro level, RU and Unisa reviewed international and national policy in relation to both environmental educational and EE fields. At the meso level, RU developed a contextual profile of the Eastern Cape by means of its involvement in the National EE Programme (Sisitka, Nduna, Timmermans, Atiti, Gon, Tyatya, Masalana & Sisitka, 2003). The development of this profile relied on respondents' responses to questionnaires and a series of interviews conducted with curriculum staff. The primary purpose of the consultations and interactions was to establish what issues impacting on environmental learning and professional development were being experienced in the province.

At the local level, RU developed two contextual profile questionnaires to generate primarily qualitative insights into local schools and their associated communities. The first of these two questionnaires focused on the school and community, while the second questionnaire focused on the teacher and the classroom. These questionnaires required, among other issues, descriptions of respondents' views of environment and contemporary environmental issues, environmental and socioeconomic issues impacting on EE work, and teacher and community successes and challenges in EE.

Unisa drew on National EE Programme provincial profiles (Sisitka *et al.*, 2003) to gain insight into the South African educational context and conducted its own macro level profiling. This involved approaching all the teachers from the SADC region who were enrolled at Unisa for ACE (EE) courses. These students completed a baseline survey questionnaire aimed at obtaining information about regional contexts, EE provision and the environment-linked needs in southern Africa. Data that had been collected over the previous seven years during provincial EE workshops, to inform the adaptation and development of contextually relevant curricula and teaching activities in a wide range of EE courses offered by the university (Le Roux & Loubser, 2000) were used to contribute to building up a comprehensive profile of the region.

Contextual profiling at the local level by Unisa took the form of a questionnaire. The questionnaire administered to South African ACE (EE) students focused on determining the status of EE in schools and also covered personal and school details, EE practices in schools, and perceived EE training needs and provision. The questionnaire used was based on the contextual profiling questionnaire developed for the SEEPS project.

Contextualised course design

Working with data obtained from the contextual profiling at the macro, meso, and micro levels by Rhodes University and Unisa ('the context'), we proceed to discuss how this data influenced decisions about the selection of course content in the ACE (EE) courses at the two universities ('professional development response'). In this part of the discussion we highlight the contextualised course design processes described in an earlier section. The section 'professional development response' also describes a number of contextualising processes.

Responding to complex environmental issues

The context

As a signatory to several international conventions on the environment, the South African government has committed itself to addressing the environmental crisis partly through education. This position is manifested *inter alia* in the Reconstruction and Development Programme (RDP) which points to a need to increase environmental consciousness and to promote a positive environmental ethic; the White Paper on Education and Training, which states that EE will help to develop environmentally literate and active citizens; and the Constitution of the Republic of South Africa (South Africa, 1996a), in which the right of every South African to a healthy, protected and sustainable environment is enshrined.

The dimensions of the environmental crisis in South Africa as a whole are detailed in the State of Environment Report South Africa (Balance & King, 1999). This report details issues manifest in the biophysical environment such as biodiversity loss, water and soil exploitation, and the large volumes of waste that are generated. These biophysical problems are inextricably linked to the poor socioeconomic conditions in which many South Africans live, and the uneven distribution of wealth in the country. Less than 60% of South Africans live in formal dwellings. Many people in both rural and urban centres do not have access to water, sanitation, electricity or other services. Poverty levels are high, and although most people have access to formal health services, clinics often do not have the resources to cope with demand.

These issues were more specifically identified and articulated by the research respondents who provided insight into the local environmental issues that they experience. At a local level, a wide range of socioenvironmental issues was identified. These include poverty, unemployment, crime, vandalism, damage to the local environment by animals, littering and dumping of rubbish, lack of proper school sites, lack of gardens, air pollution generated by burning rubbish, dirty streets, soil erosion, inappropriate channelling of water, bad sanitation, insufficient toilets, inadequate provision of medical supplies to clinics, and uncontrolled alien plant invasions.

Professional development response

Both universities have already addressed a variety of the environmental issues specifically mentioned in respondents' responses through their courses and also provided students with fact sheets (ShareNet, 2004) and case studies on these environmental issues. The data that emerged from the contextual profiling also pointed out existing deficiencies and gaps that would need to be addressed..

Upon reflection of the myriad of issues that were identified through the profiling activity, it became clear that addressing all the issues at national and local level within a single course would result in a mere superficial engagement with the problems. The universities subsequently responded to this problem by not so much focusing on foundational competencies (content knowledge) but on applied competence (applying knowledge and skills).

The notion of applied competence in the South African education context can be traced back to the transformation of the South African education and training system since 1994, which has led to a re-definition of a competent educator. Good teaching practice is defined in the Revised National Curriculum Statement (Department of Education, 2002), the National Education Policy Act (1996b), and the South African Council for Educators documentation. However, the most notable explanation is featured in the Norms and Standards for Educators (Department of Education, 2000). According to the criteria for competence, as outlined in this document, teachers are required to develop applied competence involving the combination and integration of practical (skills), and foundational (content knowledge) and reflexive (ability to reflect *and change*) competence. Applied competence enables students to move beyond purely knowing *about* an issue, to having the competence to apply their knowledge and skills to different issues in different contexts. Such a vision for teachers in the context of the ACE(EE) courses would emphasise situated contextualising processes of helping teachers to find and use *relevant* information.

Integrating environment in the curriculum

The context

With the change to an African National Congress (ANC) government in 1994, numerous policy and legislative changes were made. Some of these changes required new education and training curricula and school management policies and a refocus on the associated requirements for professional development. The role and status of environment in the national education curriculum were also newly defined. In the first draft of the new South African Curriculum, Curriculum 2005, environment was introduced as a “phase organiser” which enabled an environmental focus across learning areas¹ in the new outcomes-based curriculum framework. Research in the Learning for Sustainability Project (a South African project supporting teachers to integrate environmental concerns into the curriculum) (Lotz-Sisitka & Olivier, 2001) and the National EE Programme (Lotz-Sisitka & Raven, 2001) indicated that the design of cross-curricula activities did not necessarily support a deepening of knowledge or process skills in specific learning areas. While environmental educators were questioning the feasibility of cross-curricula approaches, the Review Committee in its appraisal of Curriculum 2005 redirected debate on the place of phase organisers — and thus also of environment as a phase organiser — in the curriculum by recommending a streamlining of the curriculum (Review Committee on Curriculum 2005; 2000). In the streamlining process, phase organisers were discontinued as a structural feature of the curriculum. Nevertheless, the Review Committee recognised the importance of environment in the curriculum and recommended that EE should receive “special attention” in the revised curriculum (Lotz-Sisitka & Raven, 2001). This resulted in a need for environmental educators to participate in curriculum policy development and to rethink the role of environment in the curriculum. The guidelines, produced by the National EE Programme, high-

lighted the environmental focus and suggested environmentally related learning outcomes in each learning area (Janse van Rensburg, 2001) which informed learning area committees in their revision and redevelopment of the existing curriculum. The Revised National Curriculum Statement (RNCS) was produced in 2002 with a clear environmental focus evident in the first principle of the RNCS. This first principle calls for the creation of an awareness of the relationship between human rights, a healthy environment, social justice and inclusivity (Department of Education, 2002). This principle is infused throughout the curriculum so that all learning areas provide the opportunity to contribute to learning about a healthy environment (NEEP-GET, 2004). This is achieved through

- values evident in the key features and scope of the learning area
- learning outcomes that develop knowledge, skills and values important for environmentally literate and competent citizens
- prescribed core knowledge

One of the most pressing challenges identified during both universities' contextual profiling at the provincial level was a serious shortage of experienced curriculum support staff. While some curriculum support staff are trained in education and have some knowledge of outcomes-based education, which enables them to demonstrate competence in working with the new curriculum (Raven, 2003), many curriculum support staff have spent several years in other government departments and consequently lack experience of the new national curriculum and educational processes in general. Other problems that curriculum staff face include a lack of time (due to staff shortages and their involvement in other projects), logistics (especially the lack of transport) and a lack of support from senior management.

Professional development response

Teachers were found to have inadequate training in outcomes-based education because the education they received both at school and during their teacher training had not followed an outcomes-based approach and had not prepared them for outcomes-based learning facilitation (Sisitka *et al.*, 2003). Compounding these challenges, teachers — despite Department of Education intentions — had not received adequate training support from provincial education departments when OBE was introduced. Furthermore, teachers had competing demands on their time, such as commitment to local and national NGO projects and government department (e.g. the Department of Water Affairs and Forestry and the Department of Environmental Affairs and Tourism) initiatives. A perception of environment as an 'add-on', which increased their already extensive workload, was widespread.

During the 1990s, the South African Qualifications Authority introduced the Advanced Certificate in Education (a postgraduate qualification) that was intended to provide opportunities for teachers to both upgrade their teaching skills and to specialise in certain fields such as EE. The challenges faced by both curriculum support staff and teachers, as became evident during the research, indicated that they lacked training in basic teaching and learning

facilitation skills, were inadequately informed of the concepts that underpin OBE, and lacked insight into how these related to teaching and learning, and moreover generally had but a rudimentary understanding of EE. It was clear that the ACE courses would provide the ideal opportunity for educators to specialise and upgrade their skills.

The ACE programmes have also needed to respond to the revision of C2005, but a key focus remains attention to OBE. To ensure that environment is not experienced as a time-consuming 'add-on', both RU and Unisa have stressed the integrated nature of environment as provided for in the current national curriculum policy (Department of Education, 2002) in their ACE(EE)s.

In the RU course, a core focus is on the following:

- How EE can enable teachers to address the first curriculum principle of addressing the interrelationships between a healthy environment, human rights, social justice and inclusivity.
- How environmental concerns are integral to the scope and purpose of all learning areas, the learning outcomes in all learning areas and the core knowledge of some learning areas.
- How environmental learning can provide the content in which prescribed skills, values, and attitudes from different learning areas can be developed.

Whole school approaches that include school environmental policies

The context

A significant contextual development influencing the professional development of educators is recent labour relations negotiations that have resulted in the implementation of an integrated quality management system (IQMS). IQMS in schools involves the development of educator portfolios and professional development planning, as well as a whole school development and evaluation process. This involves the development and evaluation of curriculum resources, governance and relationships, parents and communities, and school infrastructure (Department of Education, 2001). EE course developers argue that the participatory development of a school environmental policy has the potential to develop skills, relationships and changes that will contribute towards whole school development (WSD).

Unisa's contextual profiling revealed that all the schools represented in the research sample have established school governing bodies on which principals, teachers, learners (in the case of senior schools), parents and community members are represented. The majority of the teachers (93%) indicated that their schools have a school management policy, while 28% indicated that their schools have an EE policy. Some 20% of these schools have an EE co-ordinator. EE is however taught at only 28% of the schools, while only 21% of schools had used national guidelines for EE.

RU contextual profiling revealed that some teachers reported poor relationships between their schools and communities, while other schools, such as a small church school and the farm schools, reported supportive relation-

ships. Interactions between school and community worked in both directions involving activities such as HIV/AIDS awareness presentations, religious services, gifts of uniforms and paper, and shared vegetable gardens. In church school and farm school communities, teachers are generally respected leaders in the community. Principals and school governing bodies appear to provide substantial support to the schools. Parents serving on school governing bodies, however, are often illiterate and require capacity building to enhance their ability to provide support.

Professional development response

The course developers from both institutions who participated in this study need to endorse the mission and vision statements of their institutions in the educational programmes they develop and offer. As noted in the Unisa's School of Education's mission statement, the school seeks to provide programmes that respond to educator and community needs (Unisa, 2005). Unisa addresses this need by incorporating a section in its modules where students need to design an environmental policy and propose workable strategies for its implementation in the workplace. This assignment has a dual purpose: firstly, it is seen to provide an opportunity for teachers to develop a sound environmental ethos and value system within the school and broader community and, secondly, to provide the scaffolding for teachers to meet the constitutional obligation of working towards providing a safe and healthy environment and to fulfil their community, citizenship and pastoral role as required by the Norms and Standards for Educators (2000). The survey results indicated that although almost a third of the schools have an EE policy, only one-fifth use national guidelines for EE implementation. The module referred to above was seen as providing a base from which strategies to implement meaningful EE in context was a way of overcoming a lack of access to or awareness of information about national EE strategies and materials.

Rhodes University's ACE (EE) students are expected to review the extent to which the environmental policy of their own or another school incorporates a whole school approach. They are expected to reflect on the successes and challenges of the policy, how it articulates with the school's broader IQMS, and how it enables an active response to environmental issues and risks faced by the school and community.

The need to build capacity within the broader community (a self-evident fact in most previously disadvantaged communities in which most schools are found) highlights the importance of collaborative situated learning processes. Good school-community relations are one of the keys to successful whole school development (WSD) and the environmental policy development that should fall within the WSD process. Knowledge of the nature of the school/community relationships described above enables ACE (EE) course developers to build on the strong support from school governing bodies and principals and to search for more detail about, or work on ideas for improving, school-community relationships.

A partnership between RU and Ecoschools has succeeded in strengthening these relationships. Ecoschools is an international organisation which supports environmental learning in schools through curriculum work, school environmental management and community links. RU offers the Schools and Sustainability course for EcoSchool teachers to facilitate their curriculum work and strengthen their EdoSchool portfolios. Teachers who meet the requirements are awarded 12 credits towards the RU ACE (EE). Their schools also acquire Ecoschools status.

Further situated contextualising course processes

Workplace-based research and learning opportunities

Both universities have focused on contextualising activities which enable students to actively apply course ideas through their assignments in order to respond to issues in their own communities. All modules in both ACE (EE) programmes require students to show their ability to apply their learning by completing a relevant educational activity, lesson plan, or review in their place of work. In the Unisa ACE module on EE in classroom and community context, students need to identify an environmental issue that impacts on their school using a suitable problem identification strategy. They then need to design and plan a viable intervention strategy to address the problem. The planned intervention is implemented and students report on the challenges and outcomes experienced.

At RU, regular contact sessions with students and small groups allow course assignments and assessment criteria to be flexibly designed so that they can be reflected on with participants to ensure that the work they do on the course will be relevant to their professional workplace and community needs.

The greater part of one of the RU ACE modules is dedicated to the facilitation and practice of active learning. Students are asked to select an environmental focus relevant to their work and to develop lesson plans that include activities for finding and sharing information, conducting local enquiries, acting in response to issues identified, and reporting and reflecting on what they have learned. Similarly, at Unisa, a core focus of the Contemporary trends in EE curriculum theory and learning practice module is the design of learning programmes that will engage learners in gaining a holistic understanding of selected environmental issues. This entails accessing information through various means and in various contexts, and developing and applying skills to deal with these issues. The local and responsive nature of an active approach to learning helps students to situate learning in contexts that are relevant to them, their learners and their communities.

Developing foundational, applied and reflective competencies in local contexts

The preceding section illustrates that both the RU and Unisa ACE (EE) courses engage students in contextualising activities that enable them to study and evaluate their local environments. Students identify and research the background and ramifications of local environmental issues within their local

school communities, thereby generating context-specific data. Students also develop their critical thinking skills such as the ability to consider the political, socioeconomic, and biophysical aspects of issues; and/or to critique complex concepts such as sustainable development and social justice issues. Students are then expected to apply these skills to analyse and critique understandings of issues in their own contexts. There are a number of different tools that students use to gather and critically analyse such information. These are now discussed individually.

Environmental auditing

Environmental auditing is a key feature in both the RU and Unisa programmes. At RU students are given resource-based learning packs to support environmental auditing, and Unisa provides similar details in their course materials. These packs contain guidelines on the auditing design and process, and a number of different examples of audits and audit reports are included for discussion and analysis. Students are tasked with designing and conducting an audit that will enable them to investigate a particular environmental issue or risk in their school and/or community.

State of environment reporting

In one of the early RU modules students are introduced to the DPSIR (Driving forces, Pressures, State of Environment, Impact and Response) system for State of Environment reporting (Department of Environment Affairs and Tourism, 2006). As one of their on-course tasks they are expected to use the DPSIR system to construct a State of Environment Report for Grahamstown. This activity helps students understand and apply the process of contextualisation and inform their future on-course tasks and assignments.

At Unisa, students are introduced to State of the Environment reporting by first reflecting on how their reporting on the state of environment is linked to their values, attitudes and assumptions about the environment and its issues. Next, students report on their own communities — be it their home, school or broader community — on the condition of their environment and its resources, environmental changes and the impacts of environmental changes and actions taken to address environmental risks and issues. This is achieved through students conducting interviews, surveys and environmental auditing. These activities generally provide the framework from which subsequent activities, projects and assignments are undertaken and have led to students initiating full-scale community projects dealing with environmental issues.

The HIPPO dilemma

In one of the RU modules students are introduced to biodiversity through a resource-based learning pack. Students are expected to select a threatened species in their own community and design a lesson plan where they research, with learners, its status and the threats to its continued existence/survival. They are introduced to the Habitat-Invasive species-Pollution-Population-Over consumption (HIPPO) Dilemma (Schreuder, 2001); this is a

contextualising tool which is used to inform their research. This tool helps students to analyse the threats to their chosen threatened species through highlighting the different aspects that might affect local biodiversity.

Conclusion

Knowledge of national, provincial and local needs is needed for course designs to 'fit' the system. One means of acquiring this knowledge is through contextual profiling. For example, contextual profiling at a macro level provides knowledge of the status and integrated nature of environment in the national curriculum, the policies that guide teacher training to meet IQMS and NQF requirements, and the design requirements and features of ACE courses as both an upgrade and as a point of specialisation. This knowledge has informed the content of the courses in question. Profiling at provincial and local level has highlighted some of the logistic and training challenges faced by teachers and curriculum staff and has helped situate the ACE (EE) courses in terms of their role within the broader educational system. Profiling at macro, meso, and micro levels has provided knowledge of issues pertinent to the lives and communities of students. This contextualised course design process has enabled course developers to select and develop appropriate learning opportunities to link the course material and students' working contexts as close together as possible.

Janse van Rensburg and Lotz-Sisitka (2000) point out that environmental issues are complex, dynamic, and multi-faceted social realities. This implies that EE courses need to be designed in such a way that students are empowered to respond to unanticipated, emergent issues or issues constructed differently in different contexts. In this article we have indicated how contextual profiling outcomes have been used by course developers to inform the design and development of ACE (EE) courses so that they responded to this challenge.

Firstly, foundational competencies were addressed through designing the courses so that students would need to engage with local environmental issues and access information and data on these issues. Secondly, by focusing on applied competences, students were provided with learning opportunities which facilitated the development of interrogation and analysis skills so that they would be able to respond to the differing contextual realities they encounter. Environmental concerns have been integrated into a whole school approach to teaching, learning and school management so as to highlight the visionary role that educational institutions as communities of practice need to play. Schools and teachers contribute to the authenticity of the curriculum by responding to contextual realities in local settings. Thirdly, active learning approaches to environmental learning have provided a useful framework for structuring situated learning processes that reflect on and respond to local environmental issues, risks and concerns.

In this article we have argued for the value of contextual profiling in informing course design. We have also illustrated the value of using contextual profiling as a process tool in ACE (EE) courses based on situated models of

learning. In practice, the results of the multi-level contextual profiles informed course design and were used to ensure that students' learning experiences were provided for in such a way in the ACE (EE) courses that were relevant to their learning contexts. This was demonstrated through the various examples discussed in the article.

An area of further research within this context could be to explore how exposure to such situated learning can emerge as action research and become an integral part of the reflexive professional practice and development of educators after completion of the ACE (EE) courses.

Note

1. A learning area is a field of knowledge that has specific and unique features and has connections with all the other fields of knowledge.

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