Southern Africa is challenged by many environmental and development issues. Education has been identified as an important response to environment and development issues. These source books have been developed to support course developers to strengthen aspects of course development in support of environmental and sustainability education processes.

There are five source books in this series:

Source book 1: Deliberating curriculum frameworks in adult learning
Source book 2: Supporting adult learning and tutoring
Source book 3: Course materials development for adult learning
Source book 4: Development, adaptation and use of learning support materials
Source book 5: Course evaluation in adult education programmes

The sourcebooks draw on the experience of a range of course developers in southern Africa, and are an output of the SADC Course Development Network, established by the SADC Regional Environmental Education Programme in 1999, and funded by Sida. The Course Development Network was strengthened with additional partnership funding and technical support from Danida between 2001-2004. Course experiences informing the books are drawn from a range of southern African country contexts including: Zimbabwe, Zambia, Namibia, Botswana, Swaziland, Lesotho, Mauritius and South Africa (amongst others). The source books therefore provide a regional vantage point on issues of transforming education to address Africa’s socio-ecological and development questions.

The source books are produced at the start of the United Nations Decade on Education for Sustainable Development, and aim to provide inspiration and support to other course developers who are trying to mainstream environment and sustainability into universities, colleges and other life-long learning courses.
COURSE MATERIALS DEVELOPMENT FOR ADULT LEARNING

In support of environmental and sustainability education processes

COURSE DEVELOPERS’ TOOLKIT

Source Book 3

SOUTHERN AFRICAN DEVELOPMENT COMMUNITY
REGIONAL ENVIRONMENTAL EDUCATION PROGRAMME
2006
The Southern African Development Community (SADC) Regional Environmental Education Programme (REEP) is a project of the SADC Secretariat's Food, Agriculture and Natural Resources (FANR) Directorate. The Programme is funded by the Swedish International Development Cooperation Agency (Sida) and the Danish International Development Agency (Danida), and is being implemented by the Wildlife and Environment Society of South Africa (WESSA).

In 2000, Danida funded a Course Development Network within the SADC REEP; this source book is a result of the activities of this network.

This source book was compiled by:
Course Developers’ Network (CDN)

under the auspices of the
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Preface

The Southern African Development Community’s Regional Environmental Education Programme (SADC REEP) was established in 1997 at Umgeni Valley, in South Africa. The purpose of the programme is:

*To enable networking partners, at all levels, to strengthen environmental education processes for equitable and sustainable development in the SADC region, through improved networking, resource material production, increased training capacity and the development and implementation of policy processes.*

The SADC REEP has subsequently hosted hundreds of visiting practitioners, and run numerous training programmes. It has an established networking process and has supported the development of a wide range of learning support materials. Through a Course Developers Network (CDN), the programme also supports a number of course developers working to enhance learning programmes and curricula in formal and non-formal adult education settings.

Regional source books

Since the commencement of the CDN, in 1999, it has become increasingly apparent that locally developed and contextually relevant resource materials are necessary to support meaningful learning. The Course Developers Network has therefore been working to develop a series of source books that have a regional focus and function. These source books share experience from across the southern African region, and provide openings and starting points for new environmental education practitioners joining the activities of the SADC REEP or other environmental education networks or programmes.

This book forms part of a series of source books. Its particular focus is on the development of course materials. In producing this source book and including it in the Course Developers Toolkit, the SADC REEP acknowledges the important role that professional development courses play in supporting environmental learning in the SADC region.

The regional source books have two important features:

- They are regional, in the sense that they draw on the experience of a wide range of environmental education practitioners in the SADC region. The frameworks for the books have been developed through deliberations hosted by or at the SADC Regional Environmental Education Programme. They draw on case examples of practice from practitioners in the southern African region.

- They provide a synthesis of existing experience. The books are therefore representative of the theory and practice in environmental education in the southern African region at a particular time. This theory and practice is, however, open to change. The source books therefore remain open-ended, in that they provide open questions to guide ongoing practice. New experiences can be developed through using the source books, and this experience can be shared with the SADC REEP for future inclusion when the books are next revised.
SOURCE BOOKS IN THE SADC REEP’S COURSE DEVELOPERS’ TOOLKIT

Source book 1: Deliberating curriculum frameworks in adult learning
Source book 2: Supporting adult learning and tutoring
Source book 3: Course materials development for adult learning
Source book 4: Development, adaptation and use of learning support materials
Source book 5: Course evaluation in adult education programmes

These source books all support environmental and sustainability education processes.
The source books are supported by a Monograph, which reports on cases of environmental and sustainability education course development in southern Africa.

Developing this source book

This source book, like the others in the series, draws extensively on the experiences and contributions of the Course Developers’ Network which was established in 2002 to broaden and strengthen environmental education course development capacity and professional development in the SADC region.

Contributions have been included from those who have developed course materials around the SADC region. An evaluation tool has been included at the end of the book. This tool was developed during a Special Attachment Programme on Course Materials Development held at the SADC Regional Environmental Education Centre in February 2004.

Objectives of the source book

The overall objective of this introductory source book is to support the development of course materials for the professional development of educators working in environment and sustainability-related fields. Globally and internationally, these environment and sustainability concerns occur in complex economic, cultural and political settings in which it is often difficult to find agreement and a common course of action. Consequently, environmental education processes are often characterised by responsiveness, diversity and rigour. They encourage careful, open-ended engagement with environmental concerns in ways that are sensitive to diversity and ambiguity, without oversimplifying or generalising complex issues.

What is the role of course materials in such terrain? What would characterise ‘good’ course materials? How can educators most effectively develop such materials in a southern African context? This source book presents a number of orientating perspectives on these and other questions about course materials development in the field of environmental education. However, these cannot be seen as definitive and fixed, but rather as orientating perspectives for the development and use of course materials.
A further objective of this source book is to share insights and experiences of practitioners across the region working with course materials. Through the sharing of case stories, the source book thus serves as a networking tool for environmental education practitioners in the region. Readers are encouraged to make contact with others working on similar questions, and to share experiences and course materials where appropriate.

Ultimately, the source book aims to be a user-friendly and practical resource that inspires, stimulates, challenges and guides professional development activities in the arena of environmental education and training.

**Intended users of this source book**

This source book is intended primarily for those who develop or revise professional development courses for adults working in environment and sustainability contexts. The perspectives and guiding principles are broad and varied, drawing on course developers’ experiences from many different educational contexts. It is therefore hoped that this source book will be useful to course developers working in higher education institutions (colleges and universities) as well as non-formal settings (community-based organisations and non-governmental organisations), and across a range of specialisations such as teacher education, environmental management, local government, civil society, biodiversity conservation, and environment and sustainability-oriented research.

**How to use the source book**

There are many different ways of using this source book. Here are some ideas that might be useful.

**Use the book to guide the development of new course materials**

Developing a new course from scratch is intellectually and practically demanding, and having a source book of guiding ideas can be an invaluable tool. Justin Lupele, of the Course Developers Network, reports on some of the challenges he experienced as a member of a writing team in early 2006 developing the UNEP Mainstreaming Environment and Sustainability into African (MESA) Universities: “We had so many things to consider in compiling these course materials. It wasn’t enough just to clarify the concepts, as we also had to write in a particular style, source case studies and relevant examples to use in the text and present the ideas in a way that would be relevant and productive for senior academics”. This source book can be used in similar situations where a team of writers gather to develop a new course and would benefit from a guiding framework as they start writing.

**Use the book as a resource in professional development courses**

This source book can be used as a teaching tool, a discussion point, a reference text and as assignment support for practitioners wanting to develop their own capacity in course materials development. For example, staff of the SADC REEP have used this and similar publications as teaching and learning resources in professional development courses. It is important for educators and students to approach the source book as a collection of ideas to be carefully considered and critiqued, rather than as an authoritative textbook offering ‘fixed solutions’.
Use the book as a framework to review/evaluate existing course materials

The ideas, experiences and guiding principles described in this book are important considerations for any course, and they can provide a valuable ‘checklist’ for those wanting to review or evaluate a course. For example, in 2005, the course materials of the Rhodes University/Gold Fields Participatory Course in Environmental Education needed to be revised. The course developers and tutors had noticed that, over the years, the profile of course participants and the field of environmental education had changed and the course materials seemed to be getting ‘stale’. Several dimensions of course materials development (such as context, language, learner profiles, layout and design) needed to be considered as the materials were rewritten. This source book offers a planning and reviewing framework that would support such a process.

Structure of this source book

This source book is divided into four sections. Users can start with any section, depending on their needs or concerns. Educators developing course materials can, for example, consult Section 4, ‘Reviewing and Evaluating Course Materials’, if they are focussing on approaches to evaluation of course materials. They might, however, choose to begin by considering the features of good course materials (Section 2) for a sense of the scope of the proposed evaluation.

For those developing learning support materials for the first time, it is advisable to read all the sections in sequence and to consider the different questions in relation to their own practice.

Open-ended source books

The source books in the Course Developers Toolkit are open-ended: we invite course developers and environmental educators in the region to continue sharing their experiences by adding new insights and examples of practice to this collection. This source book is perhaps best seen as providing the initial capital for ongoing deliberations on course materials development in environmental education and training. Practitioners are encouraged to build on this with their own experiences.
BRIEF ORIENTATION
TO THE SECTIONS IN THIS SOURCE BOOK

Section 1:  The Role of Course Materials (page 1)
This section proposes two broad purposes of course materials: to support professional development processes and to promote processes of social change. The close inter-relatedness of these two roles is discussed in the context of the continually changing landscape of environmental education. The section also distinguishes between various forms of course materials (ranging from published, full-colour manuals to photocopied handouts). It considers the different roles that these materials play in distance, semi-distance and full-contact courses. The section ends by returning to the idea of course materials in support of processes of social change. It offers some practical starting points for course materials developers to consider, such as more careful selection of language, artwork and case studies.

Section 2:  Features of Good Course Materials (page 9)
This section recognises the limitations of providing a formula for 'good course materials' as the very understanding of what makes course materials effective is highly contextual and changeable. Instead, the section introduces a set of principles that can be used by course materials developers to guide their planning and writing processes. These include:

- alignment with all dimensions of the course process;
- responsiveness to context;
- support of participation and co-learning;
- presentation that is clear and accessible;
- integration of theory and practice (praxis);
- support of critical reflection and reflexivity.

Section 3:  Starting a Course Materials Development Process (page 25)
This is a practical section that starts with case studies of two different course materials development processes before introducing a 'Planning Tool' for course materials developers. The planning tool guides the reader through four stages of materials development: (i) early planning, (ii) pre-writing, (iii) getting writing! and (iv) final production. These sections include guiding questions with space for course materials developers to write their own notes.

Section 4:  Reviewing and Evaluating Course Materials (page 35)
This brief section provides a practical tool for reviewing and evaluating course materials. The focus is on course materials in particular but the reader is also directed to Book 5 of the Course Developers Toolkit on Course Evaluation.
The role of course materials

Introduction

In this source book, ‘course materials’ are regarded as learning support materials that are developed and used in environmental education professional development courses. They are thought-provoking mechanisms of information-sharing, critical thinking and deliberation to assist learners in constructing new knowledge and developing new skills.

Section 1 considers the overall role of course materials in environmental education processes and proposes that they serve two main purposes: (i) to support professional development processes and (ii) to support processes of social change towards more sustainable futures. As illustrated in Figure 1 overleaf, these two roles are interconnected because, as the knowledge and skills of environmental education practitioners are developed through course processes and supported directly through course materials, so their reflexivity and capacity to be agents of change enables other individuals, communities or institutions to work towards more sustainable futures.

Based on the ideas in Figure 1, this section begins by describing the direct role played by materials in supporting course processes. It then considers the more open-ended relationship between professional development and course materials in pursuing more socio-ecologically sustainable futures. First, however, it briefly considers the rapidly evolving field of environmental education and asks what types of course processes and course materials would be most appropriate in such a context.

Considering course materials in the changing field of environmental education

In recent decades, a broadening view of ‘environment’ combined with fundamental changes in educational theory and practice have significantly influenced the field of environmental education. The concept of environment is increasingly understood in broader, more holistic terms. Emphasis is placed on the interactions between the biophysical, social, economic and political dimensions of environmental concerns so that their complex and dynamic nature can be better understood. With this perspective, educators in the region are recognising the intimate links between healthy eco-
systems, sustainability and development concerns, social justice and democracy. Issues such as poverty, HIV/AIDS, population growth and globalisation are increasingly recognised as key dimensions of environment and sustainability challenges. This broader view of environment orientates the goals of environmental education processes to enabling better environmental management and lifestyle choices in healthier and more equitable environments.

The ‘Gaborone Declaration’\(^1\) notes that to address the complex environmental issues and risks in the region there is a need for a radical reorientation of society at a global level and a radical re-orientation of education and training in all sectors, including its course and training materials. The Declaration emphasises the role of learning support materials in this process, noting the need for consideration of, inter alia, the need to develop learning support materials that:

- are accessible to support environmental learning within the different sectors of education, and consider appropriate distribution mechanisms;

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\(^1\) The Gaborone Declaration was prepared by the Environmental Education Association of Southern Africa (EEASA) in 2002 and presented at the World Summit on Sustainable Development later that same year.
reflect action-oriented and contextual approaches to learning; and

are flexible and adaptable to diverse and changing contexts, recognising aspects such as language, age, purpose and topic (EEASA 2002:14).

This source book thus recognises that course materials should enable environmental education processes that are:

- responsive to environmental issues and risks;
- responsive to the needs and contexts of learners and educators (and other partner groups where relevant);
- supportive of participatory processes in which knowledge and experience are collaboratively developed to ensure relevance, meaningful actions and professional development; and
- critically evaluative, reflexive and open to change (Russo & Lotz-Sisitka 2003:3).

The following section describes the most direct and explicit role of course materials: to support course implementation and learners' interactions with course curricula.

**Course materials serve a variety of purposes**

In an age of mass media, technology and rapid access to information, teaching and learning processes are increasingly dependent on written sources. Materials play an important role in courses as they give learners and educators direct access to information, a range of ideas, diagrams, summaries and various other tools for effective learning. They help to direct the learning process by providing tutors with content, structure and activities to support their preparations, and by providing learners with a written resource to refer to during group activities, assignments or when tutors are not available. Although materials cannot replace people, they play an important role in providing the supporting base for teaching and learning at different levels of education and for different people's needs.

Written course materials can be used for a variety of purposes:

- **Brief, task-specific materials.** Course materials of this type are intended to support learners in a particular task such as a group activity or an assignment. They are usually concise and focussed, and are distributed at the relevant time during the course. They usually take the form of handouts, newspaper clippings, photographs, maps, diagrams, examples of previous assignments, summaries of sections, tables, sets of instructions, etc.

  **For example:**
  A tutor on the RU/SADC International Certificate Course in EE handed out this mind-map at the end of a section, to summarise and clarify the group’s deliberations around ‘participation’.
- **Instructional manuals.** In cases where the course is skills-based, with more emphasis on training than education, course materials can take the form of an instruction manual. This is usually a clearly structured, facts-based and well-illustrated book or handout containing instructions on how to do a particular task. Such materials are best suited to courses with fixed course content or more rigid mode of delivery, e.g. a 5-day course on “How to Set Up a Permaculture Garden” or “Making a Solar Cooker”.

  For example:
  *This folded sheet is printed on both sides with clear illustrations and simple instructions on how to start a trench garden.*

- **Books or course files.** These materials are usually fairly formal and comprehensive, containing most of what a student will require during the course. They are often arranged according to themes or modules, with sub-sections for content, activities, summaries and assessment tasks. Some materials also include space for learners to write their own reflections or answers, in which case the materials take on a ‘workbook’ function too. It should be noted that a ring binder is a more flexible medium in which to print course materials, because small sections can be revised, reprinted and re-inserted in a file, whereas a bound book is more permanent.

  For example:
  *A collection of printed course files and workbooks that have supported various environmental education courses in the SADC region.*

As technology advances and people’s access to it increases, a growing number of courses are including electronically stored information in course materials. This can take the form of CD-ROMS or internet-based course materials which can give learners access to interactive tasks, film clips, databases, search engines and various other educational software. Course materials developers should ensure, however, that they and their learners have adequate access and support for materials of this kind. Not
should they regard their course materials as outdated or irrelevant if they do not incorporate such technological advances.

A course’s mode of delivery also influences the role, design and content of its materials. For example, course materials might play a more central role in a distance education course than in a three-day participatory workshop where students interact with tutors face-to-face. Figure 2 represents how the level of learner-tutor contact influences the level of independence with which learners are able to work. This is an important consideration for course materials developers, who must decide whether their materials are intended to support distance learning (high level of self-instruction), full contact learning (low level of self-instruction) or a combination of both.

For example, in 2004, the Polytechnic of Namibia developed its course materials for the Namibian Environmental Education Certificate Course. This is a part-time, semi-distance course that requires learners to work independently at home between face-to-face sessions with their tutors. To support the relatively high levels of self-instruction, the study guide for Unit One contains 55 pages, with careful notes on topics such as “An Introduction to Environment” and “The State of Namibia’s Environment”. This study guide is supported by a pack of 29 readings, ranging from short newspaper articles to longer magazine and journal articles. Although the ideas contained in the study guide and readings are introduced during tutorials through group activities, lectures and discussions, learners rely heavily on the course materials when they return home and have to complete their course assignments.

By contrast, consider an NGO that offers practical courses in permaculture and nutrition in rural communities. As the courses are experiential and skills-based, with generally low levels of literacy amongst learners, written course materials are kept to a minimum and learners rely mainly on the face-to-face contact with their tutors during the week-long courses.

**Course materials support processes of social change**

Education, and environmental education in particular, has often been described as a process of social change. Janse van Rensburg (1995:144) explains: “Political change and socio-ecological dilemmas require the emergence of ‘new’ ways of thinking about the world”. A decade later, Lotz-Sisitka (2004:45) considers future perspectives on environmental education processes in a changing landscape in southern Africa and
poses the question: “What role could environmental education processes play in enabling greater reflexivity and participation in response to environmental issues and risks?” This section makes a brief and rudimentary attempt to highlight the role that course materials can play in supporting education as a process of socio-ecological change. Through exposure to new ideas, access to information and the conceptual tools to analyse, critique and plan, adult learners are empowered to understand their world from new perspectives and envision better futures.

Course materials have a significant role to play in stimulating learning processes of this kind. On one level, social stereotypes, gender biases and various unquestioned practices can be challenged through attention to the following aspects:

■ Choice of words: Alternating or even replacing the personal pronoun ‘he’ with ‘she’ or ‘they’ can help to break down stereotypes of gender roles. This applies to many other areas too: consider replacing the popular term ‘Third World’ with ‘Majority World’. What impact would this small shift in language have on the way learners think about the people who live on continents such as Africa, India or South America? Would renaming the ‘First World’ to the ‘Minority World’ stimulate learners to think differently about the international balance between power and resources?

■ Choice of artwork: Drawings and photographs often portray more than intended. Course developers should think carefully about the content and composition of their artwork and consider their subtle messages. For example, when the Rhodes/Gold Fields Course materials were being revised in 2005, the course developer recalls how she had to make some last minute changes to a cover page: “I had made a cover for the core text of Module One, ‘Environmental Issues, Risks and Sustainability’. The cover was a collage of photographs depicting various environmental issues and it looked very attractive. Then I realised that there wasn’t a single person in any of the images — despite the fact that the whole module was based on the understanding that social, cultural and economic practices are central to our view of environment and the current global crisis! If I hadn’t gone back and changed the cover, the artwork would have reinforced the idea that Nature and people are separate concerns, thereby contradicting the whole orientation of the course.”

■ Choice of examples and case studies: Like words and artwork, a course developer’s choice of examples and case studies can reveal a lot about the course’s orientation and what kind of practice it upholds as ‘good’ or ‘bad’. Do the examples represent a cross-section of cultures, economic sectors, working contexts, environmental orientations, etc? Do the examples all ‘fit the same mould’? Do they challenge stereotypes or create opportunities for questioning and debate about new approaches and ideas?

From these simple examples, we see that course materials clearly reveal their orientation to education, environment, political structures, economic values and other aspects. Each aspect of how course materials are written has the potential to steer learners in a particular direction. For this reason, it is important that developers of course materials are very clear about the course’s overall orientation and commitment to social change before they commence writing. To avoid ideological or theoretical confusion (or “mixed messages”) it is usually advantageous to have a single writer or a small team whose approach to education and views of environment are closely aligned.

This does not mean, however, that course materials should provide only one view and disregard others. Such an approach could place the course at risk of being narrow and imposing — limiting, rather than stimulating, opportunities for learning. At Lakehead University, in Canada, a course on Environmental Ethics in Education for student
teachers *intentionally* includes readings from different (even contradictory) perspectives. The course developer, Bob Jickling, writes:

Much material covered in this class is controversial and provocative to all the students (and the instructor), so we must be prepared to challenge and be challenged, to be critical and be critiqued, and to support and be supported. We may not always agree with each other. (Jickling, 2004)

Here, Jickling’s approach suggests that the role of course materials is to stimulate deeper thinking and questioning about environment and sustainability concerns — even if this means not knowing the outcome.

Sometimes the *silences* in course materials tell us more about the course orientation than what is explicitly stated in the handouts, readings and activities. Instead of only critiquing the ‘dominant voice’ in course materials, one could also ask whose voice is *absent*. Addressing these silences and gaps (or at least pointing out that they exist) can be a powerful way of challenging the status quo.

This brief section has provided some practical starting points for developing course materials that promote new ways of thinking. It would be beneficial to read it together with the section on ‘Development of critical reflection and reflexivity’, in Section 2, which goes into more detail about the broader purposes of courses in stimulating critical thinking and reflexivity.

### KEY QUESTIONS FOR COURSE MATERIALS DEVELOPERS TO CONSIDER

- **What views of ‘environment’, ‘education’ and ‘transformation’ does your course hold, and how are these reflected in your course materials?**
- **Does the format, style and content of your course materials suit its purpose?**
- **What features of your course may contribute directly to professional development and institutional capacity building?**
- **What features of your course may contribute to bringing about socio-ecological change and greater sustainability?**
- **How collaborative and responsive was your process of developing course materials?**
Features of good course materials

Course materials are the tangible products of curriculum development and course design activities. In the context of this source book, course materials include textbooks and manuals, core texts, lecture handouts, fact sheets, toolkits\(^1\), assignments, and other text-based activities that have been designed specifically for course purposes. Here, a distinction is made between course materials and other learning support materials (LSMs) such as posters, flyers, games, CD-ROMs, 3-dimensional models, etc., which supplement the course materials but which have a purpose and context of use beyond the course. Learning support materials are discussed in more detail in Source Book 4 of this Course Developers Toolkit.

With course materials as diverse as those listed above, and considering the varied contexts in which course materials are developed and used, it is not possible to develop a ‘checklist’ of the features of good course materials. Even the notion of what is ‘good’ can be problematic! Whilst tools such as checklists can be useful starting points for developing good course materials, they should be used in combination with more contextualised and participatory materials development processes. Thus, rather than providing a checklist stipulating how or why course materials should be developed, this source book highlights key areas for consideration. It is for the developers of course materials to reflect on these in the context of their own courses and make appropriate design decisions.

This source book draws on regional case examples to highlight the following important dimensions of good course materials. Materials should:

- be aligned with all other dimensions of the course process;
- be responsive to the context in which they will be used;
- be supportive of participation and co-learning;
- be clear and accessible;

\(^1\) In most cases toolkits and toolboxes combine a variety of course materials and other learning support materials such as core texts, assignments, CD-ROMs, fact sheets and activity sheets.
- integrate theory and practice (praxis); and
- develop critical reflection and reflexivity.

The following sections consider each of these points in more detail.

**Alignment of multiple course dimensions**

Course materials do not exist in isolation. They are in constant interaction with other multiple dimensions of the wider course experience, such as the course’s formal curriculum framework and orientation, its mode of delivery, its outcomes and objectives and its assessment strategies. Course materials should also be considered in relation to their broader context and the educational assumptions that influence learners, tutors and the formal course curriculum.

Figure 3 illustrates various dimensions of a typical course process. Alignment between these multiple dimensions is central to the clarity and effectiveness of a course. Unless the course objectives, assignment tasks, excursions and activities, the tutors’ teaching approaches, the learners’ contexts, the course ethos, etc. complement and support one another, it is likely that internal contradictions will create barriers to good teaching and learning. Course materials are the meeting point of these multiple dimensions and carry the responsibility of making the connections between them.

**Responding to context**

When developing course materials it is important to understand the context in which the course will be implemented. Contextual factors influence aspects of course materials development such as language use, type and format of materials, teaching and learning strategies and the selection of activities and case studies. Figure 4 groups contextual factors into five broad clusters (learner profile, institutional setting, socio-ecological background, socio-cultural background and logistical considerations) and raises some orientating questions in relation to each.

There are a number of benefits of getting to know the learners of a course and the contexts in which they work and learn. The insights gained are not only important for the development of the course materials but they also inform curriculum design decisions and help shape teaching and learning approaches. Getting to know the learners can:
FIGURE 4: Contextual factors to consider when developing course materials range from localised practical influences to questions of knowledge creation, cultural norms and values.

- make course materials more relevant to learners' work and living environments and future educational and job aspirations;
- encourage stronger links between learners' needs and course outcomes;
- provide space for learners to share experiences, expertise and indigenous knowledge; and
- assist in meeting learners' expressed needs.

A case example of responsiveness to institutional context:

In the context of business and industry, time and cost efficiency can be constraining factors in course delivery and should thus be carefully considered when the course materials are being developed. In South Africa, when WWF-SA developed a course for environmental education and training in the business and industry sector, it was found that potential learners worked within tight and fairly inflexible schedules from which their employers were reluctant to release them for regular periods of time. In response to this contextual issue the course developers designed the materials and assignment tasks to have immediate application in the workplace, to ensure time and cost efficiency from the employers' perspective.

A case example of responsiveness to learners' professional context and prior knowledge:

Applicants for the SADC/ RU International Certificate in Environmental Education are required to supply a detailed curriculum vitae and description of their professional background. This not only enables the course tutors to select the most appropriate appli-
cants, but also to develop each year’s course curriculum in response to learners’ professional contexts. For example, in 2004 the course tutors responded to the group’s strong focus on formal curriculum by including more school and college-based examples, and spending more time on curriculum-oriented discussions. The following year, however, there was a higher percentage of successful course applicants with a biodiversity conservation background, and so the course tutors selected course readings and activities accordingly.

A case example of responsiveness to learners’ academic contexts:
In 2006, UNEP commissioned the development of the UNEP Mainstreaming Environment and Sustainability into African (MESA) Universities course — a course for academicians in African universities to pursue innovations in sustainable development through their various educational institutions. One of the writers of the MESA course materials, Heila Sisitka, describes how the course development team had to write in a style that would be stimulating and relevant, and have credibility for participants working in an academic environment. This involved drawing on international policies, research and publications and referencing these into the text so that participants could pursue the links and deepen their own research interests within their universities.

There are various strategies for gaining a better understanding of the learners’ context, needs, background and expectations. One common and important strategy is to make the course materials development process as participatory as possible by allowing potential learners to get involved and comment on the draft materials. Feedback from current or past learners can also be a valuable way of learning what features of the course materials worked or didn’t work. Consultations of this kind are likely to allow for the diversity of contexts and learners’ experiences to be reflected in the course materials.

Another strategy is to assess the profiles of potential learners to obtain information about their age, gender, experiences and background, level of cultural and historical understanding, place of work, possible expectations, academic and qualification level, language competence and preference, etc.

**EXAMPLE OF A LEARNER PROFILE:**
- **Personal information** (name, gender, age)
- **Academic qualification** (provide details on your qualifications and experience)
- **Job description** (describe your responsibilities and portfolio at work)
- **Place of work** (indicate your place of work)
- **Personal expectations** (describe your personal and professional expectations)
- **Contributions to the course** (describe how you can contribute to the course curriculum)

**Supporting participation and co-learning**
The 1977 Tbilisi Principles’ acknowledgment that “we are all learners and educators” (UNESCO, 2006) reminds us that learners should be recognised as having prior knowledge, experience, values, ambitions and questions to contribute to the course processes. With this perspective, learners are considered part of the course process instead of recipients of its message. Treating learners as the ‘targets’ of a particular message suggests that they are ‘empty vessels’ without opinions or vested interests in the subject. Russo & Lotz-Sisitka (2003:2) note that learning support materials developed with this orientation are often “…informed by educational ideas that assume that if we are able to provide information and ‘get the message across’, this will lead to attitude and behaviour change”.

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Recognising that such approaches drastically reduce participation and limit learning, this source book promotes the development of course materials in a flexible manner, with activities or spaces in the text that allow learners to engage critically with the ideas and draw on their prior knowledge and experience to construct new knowledge. Consider the following case example:

A case example of course materials ‘making space’ for learners’ ideas:

In Module 1 of the UNEP Mainstreaming Environment and Sustainability into African (MESA) Universities course, an on-course task requires learners to reflect on the module that they have just read and bring their own ideas, concerns and experiences into the discussion. After reading a case study about water provision in rural communities in Ghana, learners are required to answer the following questions:

- What kinds of contributions could universities make to the issues of environment and appropriate/inappropriate development?
- Which environment and development issues would be relevant in your university’s context? How can they be ‘mainstreamed’ into your discipline/faculty/programme?
- How could you and your colleagues or students use the diagrams in this module? Choose one or more of them and use them to analyse the issues in your context in terms of, for example, causes, consequences, inter-relationships, historicity, context, the interface between people and place, social justice and economics. What is the relevance to your discipline?

Notice how the questions in this case example are open-ended, inviting learners to take the course deliberations into the context of their own work and lives. However, this approach is not disconnected from the course content because it builds directly on the case studies and core text provided in the course materials.

POINTS ON INTERACTION
FOR COURSE MATERIALS DEVELOPERS TO CONSIDER

- Include questions which encourage learners to reflect on their experience and work context, such as ‘How is it done in your community? What similar experiences are evident in your work? How relevant is this for your professional development?’
- Refer learners to additional readings and other relevant sources of information.
- Encourage learners to describe similar experiences or cases that they have experienced in their workplace or communities.
- Stimulate critical engagement by including questions such as ‘Do you agree with this perspective?’, ‘Would this have worked in your context?’, ‘What recommendations can you make that might improve the situation?’

It is not only through reflection activities and group tasks that learner interaction is supported. The style and tone in which the course materials are written also influence the way ideas are received and responded to. For example, materials that use inflexible language are less likely to invite comment and further contribution by learners than materials that use open, non-judgemental and non-impositional language. Consider the following fictitious example of course materials in the context of natural resource management. Notice how limited the opportunities are for learners to con-
sider alternatives, explore the subtle dimensions of the complex issue of CBNRM, or draw on their own experience and ideas.

Of course, it is not practical or desirable to develop course materials in a completely open-ended, participatory way so that little is actually said by the end of the course! Developers of course materials should aim to achieve a balance between clear, confident materials that offer guidance and new knowledge, and flexible, open-ended materials that invite critique and further contributions.

### Clarity and accessibility

Course materials provide a common starting point for course deliberations. They provide information and structure to learners and tutors, and form an important link between the learner and the course tutors, especially in semi-distance or distance-learning courses. For these reasons it is essential that course materials are as clear, accessible and relevant as possible. This section discusses three key features that collectively contribute to clear and accessible course materials, and offers some ideas on achieving them:

- logical structure and coherence
- accessible language
- layout and visual impact

#### Logical structure and coherence

An important feature of any good course materials is the presentation of information in a coherent and structured way. If the information is presented logically the learner will be able to concentrate on the information, rather than wasting time trying to find out where the information is, or flipping backwards and forwards through the pages trying to follow a concept or line of thinking.

Coherent materials are those that follow a clear conceptual path without internal contradictions, unnecessary overlaps, irrelevant ideas or sidetracks. Coherent materials also do what they claim to do — for example, if a course states that Module One has four objectives, the reasonable expectation is that the texts and activities used in that module will directly allow those four objectives to be achieved.
The time to address issues of logical structure and coherence is in the planning stage, before writing begins. As a team, the course developers or materials writers should consider various ways of structuring the materials and discuss the strengths and weaknesses of each. It is difficult and time-consuming to edit or over-write course materials once they have already been written into a particular framework, or in a particular style.

Course evaluations sometimes draw attention to some learners’ frustration of not knowing why a particular activity was done, or how a selected reading related to the course as a whole. These concerns can be linked to issues of structure and coherence: it should be the role of the course materials (and, of course, the tutors) to present each dimension of the course in a way that shows clearly how it fits into the ‘big picture’ of the course process. This can be done in various ways. The following are two examples:

- Categorising activities or sections of the course materials with headings or icons can help learners see, at a glance, whether something is an ‘enrichment task’, a ‘core concept’, a ‘reflection activity’, etc. Figure 5 shows how course materials for the Namibian Environmental Education Certificate Course made use of icons throughout its course materials so that learners could understand, at a glance, the purpose of each section.

- Introducing readings and activities in ways that clarify their broader purpose can help learners see the purpose of each task more easily. For example, in 2004, the Rhodes/Gold Fields Participatory Course in Environmental Education introduced this approach for some course readings. Learners reported how they benefited from commencing a reading with this kind of introduction and have requested that it be done for more readings in the course. The following paragraph appears at the start of one of the reading packs in Theme 2 of this course. Consider the role it might play in supporting a learner to start the reading with a clearer understanding of its purpose within the course, and to know what to expect from this particular reading.

Poverty is a highly complex issue, requiring insights into global economies, power structures, histories and modern politics. However, our own experience of poverty (either through living in it, or witnessing it) should enable us to understand part of the reason why poverty exists, and the impact it has on people’s lives and the environment. This Reading Set 1.10 does not attempt to provide a detailed study of patterns of global poverty and consumption. Instead, it offers a few readings that will create discussion points for further discussion.

The first two pages provide an introduction to some of the key terms and ideas that will assist you when discussing the issues of poverty and consumption.

(source: RU/GF Course materials, 2006)
POINTS ABOUT COHERENCE AND STRUCTURE
FOR COURSE MATERIALS DEVELOPERS TO CONSIDER

- During the planning stage, sketch a mind map of the main sections to be covered and the sequence in which they could be arranged. This forms a ‘plan’ for writers to follow.

- Start with a clear understanding of the course’s orientation (educational, environmental, cultural, etc.) and write or select readings, core texts, case studies and other learning support materials that are aligned with this orientation. (Some courses intentionally include texts with different orientations so that learners can engage with a cross-section of ideas. In such cases, this intention should be made explicit at the beginning of the course so that the diversity is understood to be enriching rather than conceptually muddled!)

- Include a contents page or overview document for learners to see at a glance what is available in the course materials.

- Use headings and sub-headings thoughtfully.

- Use diagrams, flow charts, graphs, mind maps, etc. to clarify concepts or structure.

- Remember the rule: one idea, one paragraph.

- When writing, make effective use of connecting words that indicate a flow of thought — e.g. therefore, consequently, furthermore, nonetheless, similarly, although, in conclusion, etc.

- Before finalising the course materials, one person (ideally one of the course developers and conceptual leaders) should read through the materials from start to finish and check for unclear statements, ambiguities, gaps in continuity and conceptual coherence.

Accessible language

Issues of language are central to almost all educational processes. This section suggests some ways in which language can be used more effectively in course materials and situates these practical ideas within the wider debate around the role of language in teaching and learning.

Which words are best?

Many developers of course materials feel pressured to write in a complex style and use advanced vocabulary in order to make their course materials sound authoritative and academic. In an inappropriate context, this approach serves only to intimidate learners and make them feel as if the course is at a level they are unable to reach. Complex ideas do not necessarily require complex words to make them accessible.

However, while it is important to strive for straightforward, accessible language, it should be noted that some difficult words are commonly used within specialist subject areas and do, therefore, need to be understood. For example, words such as ‘con-
text’, ‘participation’, ‘sustainability’, ‘inter-relationships’ and ‘ecological’ are central to the field of environmental education, and should thus be understood by all learners.

This principle becomes increasingly important at higher levels of study (for example, postgraduate courses), when learners are expected to show mastery of the specialised language in their field of study. It is the responsibility of the course developer to ensure that language in course materials is used at an appropriate level that is both challenging and enriching.

■ Be concise

Writing concisely is one of the greatest challenges faced by writers of course materials. Even good and experienced writers need to edit their work two or three times so that it is as concise as possible. Concise writing contributes to the accessibility of course materials because the reader can get straight to the point without having to read extraneous sentences.

Compare the following two paragraphs and take note of how the second version is much more accessible because the words have been kept to the minimum. Try to identify what writing techniques have enabled the writer to do this.

EXAMPLE 1:
"When we talk about environment we realise that things have changed since the dawn of time. Environment has been looked at by various cultures in many different ways."

EXAMPLE 2:
"Throughout human history, environment has been viewed differently by different cultures."

■ Translation

In courses where learners speak a language different to that of the course materials, it may be necessary to have the course materials translated. Some institutions, especially colleges and universities, require that courses be offered in the country’s official language of instruction (e.g. English, French or Portuguese), and course developers will need to be familiar with such requirements.

Translation of course materials is usually an expensive and time-consuming undertaking, unless one of the course developers is highly competent in both languages, has time available and can translate the materials at a low cost. If it is anticipated that the materials will need to be translated, appropriate budgets and time frames should be provided for well in advance of the course being implemented.

Translating written documents is not an easy task and should be done by a person with high levels of competence in both languages. A weak translator can miss many subtleties of language and can misrepresent the ideas in a course.

■ Picture-based course materials

In cases where learners have low levels of functional literacy, picture-based course materials are an effective alternative. This approach was used by the Institute of Natural Resources, in South Africa, for its courses in sustainable livelihoods. Tutors developed A3-size handouts with large illustrations and captions in simple English. The
adult learners, many of whom had not completed primary level schooling, could refer to the diagrams to recall the practical skills they learned on the course, and were not limited by having to read the written text.

Another benefit of picture-based course materials is that they often generate rich discussion, as learners have to consider the pictures closely without being able to rely on commentary in the written text. Thus, when used appropriately, picture-based materials can stimulate participation and co-learning as learners deliberate each picture.

Figure 6: Picture-based materials can assist learners with low levels of functional literacy.

**POINTS ABOUT LANGUAGE FOR COURSE MATERIALS DEVELOPERS TO CONSIDER**

- Write in a style that is suitable for the level and context of the learners.
- Avoid complex language for the sake of sounding knowledgeable.
- Avoid over-simplifying language so much that the materials patronise the learner.
- Keep jargon to a minimum.
- If a difficult word is used, consider providing a synonym or brief definition in brackets.
- Some courses keep the right-hand margin of each page wider than usual and use the space to provide definitions of difficult vocabulary.

**Layout and visual impact**

Beautifully presented course materials cannot disguise weak content, conceptual confusion or poor writing. However, pages that are cluttered, illegible, carelessly presented and illogically structured can undermine even the best content, making it difficult for students to benefit from the course materials.

Where possible, a professional artist and desktop publisher should be employed to give the materials a neat, inviting and user-friendly appearance. Limited budgets and timeframes do not always make this feasible, so this section draws attention to some basic considerations regarding the design and presentation of course materials. (Book 4 in the Course Developers’ Toolkit, Development, Adaptation and Use of Learning Support Materials, provides a more detailed discussion on the technical aspects of layout and publication.)
Set up a template

Prior to writing the course materials, set up a template for the design of the pages, or pay a desktop publisher to set one up for you. A template is a frame or structure into which the author can type the materials, thereby eliminating time spent experimenting with different fonts, different borders, adjusting margin widths, etc. A template has all these settings in place so that the author only has to type into the blank spaces.

Avoid over-decorating!

Keep special formatting and page decoration to a minimum. Most computers have collections of clip art, decorative borders and a wide variety of fonts, so the temptation is to use these widely. However, this can result in cluttered and fragmented pages that detract from the content of the course. For most course materials there should be no need to use more than two different fonts on a page. Font types should be clear and legible; borders, if necessary, should be simple. Avoid filling up blank spaces with clip art, as these are seldom relevant to the context of the course and can give the course materials an impersonal feel and ‘amateur’ appearance.

Colour-coding

If the budget allows, course materials can be printed with coloured ink, or at least on different coloured paper. Colour-coding can make course materials much more inviting and user-friendly.

A case example of colour-coding to facilitate access:

In 2002, the SADC REEP and Swedish environmental organisation SCC Natura AB offered an advanced international training programme called “Environmental Education Process in Formal Education”. The course file used colour coding to assist learners in navigating their way through the course materials. Core Text 1 was printed on pink paper, Core Text 2 on green, Core Text 3 on blue, additional readings on white and summaries on beige. This simple technique helped learners find relevant sections quickly during tutorials and to keep their course files in good order.

Effective numbering

In cases where the course materials are fairly long with multiple sections and sub-sections, an effective numbering system can help make the course materials more accessible. The most popular conventions are:

Using numbers:

1. SECTION HEADING
   1.1 Subheading
   This is the main body of text, which should be written in the same font or one that complements the one used in the headings.

   1.2 Next Subheading
   1.2.1 For points within a sub-section
   1.2.2 etc., etc...

Using a number–letter combination:

1. SECTION HEADING
   1(a) Subheading
   This is the main body of text, which should be written in the same font or one that complements the one used in the headings.

   1(b) Next Subheading
   (i) For points within a sub-section
   (ii) etc., etc...
Choose artwork carefully

Many sketches and photographs do not reproduce well, especially if they are to be photocopied. Choose illustrations that have clear, crisp lines without large areas of grey, and choose photographs that have a strong tonal contrast between light and dark. Consider the different tones of the photograph on Figure 7 and how this might affect the final appearance in the course materials, after it has been photocopied or printed through a commercial printer.

Figure 7: The same digital photograph reproduced with three different tonal settings.

Consider the contextual relevance of artwork and, where possible, use local artists whose images can reflect local settings and situations (Figure 8).

Figure 8: Choosing artwork that is relevant to the contexts of the learners.

Integration of theory and practice

Effective practice in almost every professional field requires an integration of ‘thinking’ and ‘doing’. This is commonly referred to as praxis. This section considers praxis in more detail by drawing on the concept of Applied Competence and asking what sort of course materials would support its development.

Historically, adult education has been based in higher education institutions, such as universities and technical colleges, and so the mode of study and the content of courses for adult learners were usually quite separate from their site of employment. The role of course materials, therefore, was to provide broad and often abstract ideas to equip students with knowledge that could be applied in a range of situations in a very generalised career path. Increasingly, however, adults are studying in the context of their work, either by registering for courses that relate directly to their daily practice or by registering for part-time courses that allow them to apply their assignments to their personal work experience. This international trend has stimulated changes in ap-
proaches to developing course materials, which are now expected to be more directly supportive of workplace activities.

**Applied competence**

Applied competence is defined as the integration of Foundational Competence, Practical Competence and Reflexive Competence, as illustrated in Figure 9.

**Foundational Competence** is the demonstrated understanding of what a practitioner is doing, and why. Consider, for example, a school principal, for whom Foundational Competence includes knowledge of the national curriculum, understanding of educational theories and areas such as ‘assessment’, ‘school management’ and ‘child development’.

**Practical Competence** is the demonstrated ability to perform a set of tasks. Using the same example of a school principal, examples of Practical Competence include the ability to guide the teachers in the school through difficulties in assessment, the ability to mediate national curriculum policy for the teachers, and the ability to lead staff meetings and resolve disciplinary issues. This is seen as the ‘practical’ dimension of effective practice.

**Reflexive Competence** is the demonstrated ability to connect what is known with what is done, so that practitioners can learn from their actions and make adaptations for improved practice. Although easily overlooked, this is a very significant area of competence which requires practitioners to reflect critically on the work they do and seek ways of improving practice in their areas of responsibility. The school principal, for example, would review developments in the school, consider these in the light of national standards or regional trends, and strategise ways of improving her practice and that of the school. This type of competence underpins reflexive practice.

It is significant to note that Applied Competence implies the combination of these three dimensions: that foundational competence without practical competence is inadequate, and that foundational and practical competence together, without reflexive competence, is limiting.

Applied Competence is of significance to course materials developers because it offers a basic framework within which to write core texts, develop assignment briefs, select readings, etc. It can also be used as part of an evaluation process to assess whether the course materials address various types of competence.

**Figure 9: Applied Competence is the integration of Foundational, Practical and Reflexive Competence.**
POINTS ABOUT APPLIED COMPETENCE
FOR COURSE MATERIALS DEVELOPERS TO CONSIDER

- Do your course materials support the development of foundational, practical and reflexive competence? If not, what can be done to strengthen each area?

- What type of content and different styles of course materials might support the development of Applied Competence?

- Compiling a detailed profile of learners and their work contexts might help in identifying what practitioners need to know and do in their professional contexts.

Development of critical reflection and reflexivity

Materials that support reflexive practice

As described in Section 1, one broad purpose of course materials is to support adult learners in contributing to processes of social change towards more sustainable futures. Critical thinking skills and the ability to be reflexive (reflect and critique in order to improve) are recognised as central to these processes of social change. In 2004, Glenda Raven completed her doctoral research into the role of reflexive practice in environmental education and the extent to which the Rhodes/Gold Fields Course contributed to the development of such reflexivity. She had this to say about the role of course materials in supporting reflexive practice:

Course materials, and the level of engagement with these, is primarily the space in the course where participants are exposed to known and unknown perspectives on environmental issues, risks and responses. Course materials, and the themes incorporated into these course materials, provide participants with the ‘tools’ for affirming and/or challenging what they do know about environmental issues, risks and responses. The course materials, similarly, provide participants with the ‘tools’ for exploring unknown perspectives on environmental issues and risks and approaches to environmental education processes. For example, theoretical perspectives on the complex and interrelated nature of environmental issues, contained in Core Text One, challenge participants’ often narrow conceptions of environmental issues and risks. An exploration of Core Text Three challenges participants to identify the limitations inherent in their current practice and explore alternative and unknown approaches to teaching and learning that address these limitations. Readings contained in the course materials, similarly, offer participants the opportunity to explore other critical and unknown perspectives informing their work.

(Raven, 2004:294)

From Raven’s discussion we see that course materials can stimulate critical thinking and develop greater reflexivity by:

- exposing learners to familiar and new perspectives on socio-ecological concerns;

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1 This is closely linked to the notion of Reflexive Competence, a dimension of Applied Competence, as described in the previous section.
providing critical thinking tools to engage at a deeper level with these concerns;
- challenging stereotypical views, challenging narrow perspectives and offering alternatives;
- creating opportunities to reflect on deeply held views and assumptions that lie behind own practice;
- introducing alternative case studies and new models of practice; and
- creating the ‘space’ for learners to work with these new ideas.

Consider how some of these starting points of reflexive practice might be supported through the following extracts from various environmentally-oriented course materials:

**Extract from Theme 1 of the Swaziland Certificate Course in Environmental Education, showing how the core text and associated activity might stimulate critical thinking and debate around contemporary socio-ecological issues.**

In recent years, society has started to question the narrow perspectives provided by modernism. People are increasingly drawing on, and developing, postmodern ideas to provide a broader view of the world. Postmodernism recognises that there is more than one way of seeing phenomena, and that there are many different ways of responding to issues. For example, you might use technology to resolve a local environmental problem, but at the same time you may also apply cultural practices to resolve the same problem. There is recognition that there are many dimensions to all issues, including the social components. Therefore, solutions to issues are often diverse, and particular to a specific context. Increasingly, we are realising that there is no one ‘big solution’ to environmental problems, but rather multi-dimensional and multiple ways of responding to different issues in different contexts.

1.1.5. 
- Present your understanding of the concept of modernism and compare it with those of your fellow participants to note if it is a comprehensive understanding or just a narrow view of the subject.
- Discuss the environmental impacts of colonisation focusing on the exploitation of environmental resources.
- Explain the environmental impacts associated with population growth.
- Discuss the influence of industrialisation and consumerism on the Swazi society and environment.
- Describe examples of the various approaches to the amelioration of the environmental problems in Swaziland.

**Extract from Module 2 of the UNEP Mainstreaming Environment & Sustainability into African (MESA) Universities course**

The African situation is critical in many ways. Africa as a continent has not been able to participate in the ‘development race’ in the same way as other continents. It has been faced with tensions that arise between local values and the values associated with modernisation and globalisation. With the drive and the desire to modernise and develop Africa in ways that match western perceptions and models of development, many Africans have found themselves losing touch with and love for what made the African way of life sustainable and harmonious with the world around them in earlier times. Mamdani (1996) comments on this tension in African society (which he argues is rooted in colonial history), and argues that neither a retreat to ‘culture’ nor a marriage with modernism will resolve Africa’s dilemmas. He argues for seeking out a new synthesis for Africa’s development.
Using visual texts to stimulate critical thinking

In an increasingly visually literate society, visual texts such as cartoons and photographs are being used in course materials to stimulate thinking and challenge dominant perspectives. The cartoon in Figure 10 was used on the cover of a reading pack entitled ‘Poverty, consumption and a planet full of waste’ (Rhodes/Gold Fields Participatory Course in Environmental Education, 2006). Consider what type of questions and discussions it might stimulate.

Note that cartoons and photographs, like artwork and published pieces of writing, are protected by copyright. Course materials developers should ensure that they have permission to use any visual texts in their course materials, and the original source should always be acknowledged.

Figure 10: This cartoon by Swedish cartoonist EWK was used on the cover of a reading pack entitled ‘Poverty, consumption and a planet full of waste’.
Courses are offered in a wide range of institutional settings, from universities to NGO and CBO programmes, to government-funded projects. As described in the earlier section on Responding to context, numerous other contextual factors (socio-cultural, socio-ecological, logistical and learner-specific factors) influence the development of course materials, from the very first planning meeting to the final appearance of the printed materials. For this reason, it is unrealistic for this source book to offer a fixed structure or ‘fail-safe’ plan for course materials developers to follow. Instead, this section provides some useful tools and examples of other course developers’ experiences for the reader to draw on and apply or adapt where relevant. At the end of the section, a planning tool for course materials developers raises important questions to work through in a group.

First read the following two case studies of how course materials were developed, and then consider how similar or dissimilar your experiences might be. Would the approaches taken in each example be appropriate in your context? Do you need to consider any other factors that might influence the materials development process? Do you have access to the resources or timeframes that enabled these materials development processes?

**CASE STUDY 1:**
**SPECISS College Certificate Course in Environmental Education (Zimbabwe)**

The Rhodes/SPECISS Participatory Course in Environmental Education was first run exactly a decade ago, in 1996. Before we began, there were a number of logistical decisions to be made. These decisions have had far-reaching consequences with regard to the sustainability of the course (especially the sustainability of its initial ethos) and our ability to adapt the materials.

One of the logistical decisions was to place the course at a commercial college (SPECISS) rather than at a government-sponsored institution, such as at the University of Zimbabwe. This was motivated in part by convenience — as one of our trainers was already working at SPECISS — and in part by the fact that the tertiary institutions in Zimbabwe were declining due to political and economic instability. SPECISS College was already acting as a training and registration body for UNISA, which meant that it had proven its ability to run outreach teaching programmes for universities external to Zimbabwe.
A major benefit, relevant to the re-development of the course materials, of placing the course at SPECISS, has been that it placed relatively few institutional constraints on the course. Making SPECISS our institutional base has given us greater flexibility as we do not have to request permission to make changes in the course content and delivery. The Zimbabwean version of the course still maintains its high standards, and remains answerable to Rhodes University. However, we are relatively free of institutional red tape, which can slow down the process of material re-development.

In the first few years of running the course, the written course materials remained relatively static, with additions, rather than re-writes, being the main characteristic of the materials development. Unlike some courses where the written materials are the most significant component of the course, this was not true of the Rhodes/SPECISS course, where the process of the course was more significant. Our field trips, invited guests, own reading of materials external to the course handouts and engagement with local issues, guided by participant interests, have contributed significantly to the course curriculum. Although these things are not usually thought of as ‘course materials’, it would not give an adequate picture of the Rhodes/SPECISS materials development process to exclude mention of them.

With regard to the development of the written course materials, we largely relied on the Rhodes team of writers to regularly update the materials. However, this year our two course lecturers have significantly re-developed the course materials. The motivation for this activity was:

- our growing confidence in our own capacity to embark on such a project;
- the availability of a small amount of funding for this work;
- the build-up of ideas for re-developing the materials from our regular participant evaluations; and
- our own self-reflexive awareness that the course materials were not a reflection of our developing understanding of environmental education — in particular, we had noticed we had outgrown the strong social constructionist assumption of the original course and wanted a weaker constructionist, more realist underlying methodology.

In many ways, developing these materials was an experiment and should be thought of as an ongoing, incomplete project. The main requests from participants have been for the materials to be contextually relevant to Zimbabwe. This has become more urgent recently, as the South African course language reflects a greater commitment to Outcomes Based Education (OBE) and as the South African courses have become developed in a way which is more contextually specific to South Africa.

One of the most significant factors that influenced our method of material development was an incident that occurred shortly after we included industry participants on the course. In our regular evaluations sessions, many, but not all, of the industry participants requested that the course avoid theory and concentrate only on skills. This went against our understanding of educational processes (which suggests the unity of theory and practice); yet we felt compelled to act on the industry participants’ requests, since this was what our stated commitment to “participatory” materials development required. In the end, we did not follow the industry participants’ requests, and in the process had to acknowledge that curriculum development is more than simply a commitment to ‘what the participants say they want’: it is also a commitment to being truthful about our understanding of educational processes, to the best of our ability. We learned that, sometimes, a majority of people can be poorly informed about something and that ‘truth’ is not something we can decide upon democratically. This was a step in the direction of looking towards a more realist, less strongly socially constructed view of our educational methodology.

To give a small example, if we had followed only participant suggestions with regard to re-developing the course materials, we were likely to have missed the opportunity to include information on the influence of Marxism on education in Zimbabwe. The reason we included this information was because its absence became evident as we engaged with (real, weakly not strongly, socially constructed) educational history. Our participants could not know that they did not know, and thus could not have requested it. Our ongoing dialogue with participants has significantly influenced our course materials, allowing us to ensure the materials are relevant and responsive to the participants’ needs. Nevertheless we have learnt, through self-reflexive engagement with our own
practice, that curriculum development requires more than this; it also requires a commitment to providing materials that reflect our current best understandings of educational processes, however fallible they might be.

**CASE STUDY 2:**
National Certificate in Environmental Education, Training & Development Practice (South Africa)

During 2005 and 2006, the Wildlife and Environment Society of South Africa (WESSA) collaborated with the South African Department of Environmental Affairs & Tourism, the Environmental Justice Networking Forum and the Rhodes University Environmental Education & Sustainability Unit to establish a loose network of environmental education and training providers. The network was named the Environmental Learning Forum (ELF), and many other organisations have since joined.

ELF’s first collaborative task was to develop the curriculum and course materials for a new South African qualification called the National Certificate in Environmental Education, Training & Development Practice (EETDP). As a national qualification, the curriculum development process was regulated by national policy, which required that (a) a needs analysis be conducted to establish the viability of such a course, and (b) the curriculum development process be participatory and democratic. To support this process, funding was secured through WWF-SA and Nampak.

Over the next few months, needs analyses were conducted in each of the five sectors that the course would be implemented: conservation, agriculture, business/industry, local government and civil society. Insights from these needs analyses were reported in a 150-page document and taken into a consultative workshop with key stakeholders from ELF members and representatives from each sector. At this workshop, details about the courses’ orientation, content, structure, time frames, teaching approaches, assessment frameworks and materials were brainstormed and debated. From this workshop, individuals from the ELF were selected according to their areas of experience to write specific sections of the course materials. These draft materials were scrutinised two months later at a follow-up workshop, where comments, suggestions and changes were made. As WESSA was the lead developer and manager of the course development process, a new staff member was contracted to co-ordinate this process and be responsible for the bulk of the writing and editing. By early 2006, a formal evaluation questionnaire was developed and a set of draft course materials was circulated amongst stakeholders for comment. Feedback from this evaluation process was used to refine the course materials even further and prepare them for printing and use in the first roll-out of the new qualification.

![Figure 11: A WESSA facilitator at the consultative workshop where stakeholders discussed aspects of the proposed course, including course materials and other support materials.](image)

The main strength of this course materials development process was the availability of the ideas and experiences of a large and very diverse group of people. The course content was carefully considered by practitioners from a range of contexts to ensure that the materials and assignments didn’t advantage or neglect any particular group of learners. Many new readings, diagrams and perspectives were introduced and, while
they don’t all appear in the final course materials, they played an important role in enriching the discussions, stimulating debate and challenging the materials writers to incorporate these possibilities.

Difficulties experienced arose mainly from working over an extended time (almost a year) with so many stakeholders. The involvement of multiple writers helps to get more sections written faster, but also creates the challenge of integrating different styles of writing — and sometimes even conflicting environmental perspectives — which find their way into the texts. Ensuring a coherent conceptual flow in the materials was also challenging because each writer was concerned with his/her own section, which did not necessarily build on previous sections or prepare the way for later sections.

Planning Tool for course materials developers

The following Planning Tool has been developed to guide a team of course materials developers through the various stages of planning, drafting, editing and refining course materials. You will notice how a significant proportion of the work takes place before a draft text is even written. It is important not to neglect details such as planning and management.

A. EARLY PLANNING

BASIC PRACTICAL ISSUES

What is the time frame for developing these materials?

Who is available to lead the development of these materials?

Who else is available to contribute to the development process?

What budget is available?

CONTEXTUAL ISSUES

Who are the intended learners and how might this affect the nature of these course materials?

Are there any national/institutional requirements or policies or priorities that need to be considered when developing these materials?
AUDIT EXISTING RESOURCES

What resources are already available that would reduce having to develop materials ‘from scratch’ or source funding to buy new things? (e.g. readings and notes from previous courses, empty files or folders that can be re-used, tried-and-tested activities, diagrams, etc.)

B. PRE-WRITING

THE WRITING TEAM

Who is going to write the course materials? This is usually a big undertaking for a single person and they need to be aware of the substantial time commitment it will require. A team of writers might be an alternative, but then there should be a ‘lead author’ whose task is to ensure conceptual coherence, consistent style of writing, etc.

What are the strengths of each writer, and what expertise or areas of specialisation does each bring to the materials development process?

PURPOSE OF THE COURSE MATERIALS

What is the purpose of these course materials?

How will this affect their length and structure?

EXTENT OF THE COURSE MATERIALS

How detailed will the course materials be?

Is there a limit to the number of pages?
DEVELOP A CONTENT MAP

What content will be most appropriate for the purpose of these course materials and the context of their use?

............................................................................................................................... ......
............................................................................................................................... ......
............................................................................................................................... ......
............................................................................................................................... ......

How will this content be structured? What section headings will guide the writing process?

............................................................................................................................... ......
............................................................................................................................... ......
............................................................................................................................... ......
............................................................................................................................... ......

STYLE AND FORMAT

How should the course materials look? Consider the following (unless you are paying a professional desktop publisher to do this for you once the text is written):

  Font and font size for main body of text .................................................................
  Heading style and size ............................................................................................
  Page set in landscape or portrait ............................................................................
  Numbering system (see page 19) ...........................................................................
  Margin width on left and right ............................................................................... 

What will the cover look like?

............................................................................................................................... ......

How will the materials be bound? (e.g. stapled; punched and put in a ring binder; spiral-bound; loose sheets; professionally published in a book format.)

............................................................................................................................... ......

MANAGEMENT

Within what time frames do these course materials need to be written? You might consider drawing up a weekly or monthly timetable to monitor progress and keep things on track.

............................................................................................................................... ......

How will the budget be managed?

............................................................................................................................... ......

Who is the overall co-ordinator of this process? This will include attending to matters such as appointing an editor, a proofreader, an artist, overseeing the financial management, ensuring that deadlines are negotiated and met, etc.

............................................................................................................................... .........
How and where are the course materials going to be printed and bound? If this is an external job with a small printing company, ensure that you contact them well in advance. Printers often work to tight schedules and will not be able to squeeze your printing job in at short notice!

C. GETTING WRITING!

The number of drafts and details of the exact process of writing depends on the time frames, the extent of the materials and availability and skills of the writer(s). Hence, this section only offers very generalised suggestions regarding the actual writing process and the overall management is left to the project co-ordinator.

FIRST DRAFTS
When should these be submitted for comment?

Who should comment on this early round of writing?

How will feedback be reported to the writers?

REVIEWING DRAFT MATERIALS
Are the course materials being written in line with their purpose and context of use?

Are the course materials aligned with the overall course orientation?

Are the course materials being written in a way that enables the course outcomes/objectives to be clearly and easily met?

Is the style of writing and level of language use appropriate to the learner profile?

PRODUCING FINAL DRAFTS
Are the writers aware of the feedback from the review process, and is it clear what changes (if any) need to be made?

Who is going to read the course materials from start to finish, checking for consistency of style, conceptual coherence, logical development, etc? Note: Sometimes, especially when a whole team of writers has been involved, one person with excellent writing skills goes through all the sections and makes changes to language and style of expression so that the course materials flow smoothly like a single piece of writing. This person is sometimes (but not necessarily) the editor.
D. FINAL PRODUCTION

EDITING AND PROOFREADING

Note that editors and proofreaders have very different responsibilities. An editor reads the course materials for style, consistency, appropriateness of content, relevance of case studies, flaws with stereotyping, generalisations, etc. A proofreader, however, reads the course materials at the very end just before printing, to check for typing errors, punctuation errors, text boxes that have slipped out of place, illustrations with incorrect captions, etc. In both cases, the person should be a highly competent speaker and writer of the language in which the course materials are written.

Who is going to edit the course materials?

If it is a person outside of your organisation/college, how much will this cost?

Who is going to proofread the course materials?

If it is a person outside of your organisation/college, how much will this cost?

Is there anybody, or any group, that should see the course materials and approve them before they go for printing? This might be, for example, a Head of Department or a funder.

Consider using the course materials review and evaluation tool, as presented in the following section (Section 4, page 35) of this source book.

REFERENCING

Are all the books, magazines, Internet sites, journal articles, etc. mentioned in the main text acknowledged in the reference list at the end of the course materials?

Is this referencing accurate and consistent?

ACKNOWLEDGEMENTS

Have all involved with the course materials development process been acknowledged? Sometimes this is limited to financial payment. Sometimes writers and other contributors are listed at the front of the course materials. (Note: certain organisations do not permit individual names to be listed as they prefer the materials to be associated with the organisation, not an individual.)

It is a kind gesture to send a formal letter to the various role players (especially the writers), thanking them for their contributions. This is often appreciated by those needing to compile a curriculum vitae or work portfolio. Who will write these letters of thanks?
If funders and other organisational stakeholders have been involved, are their logos adequately and appropriately displayed on the course materials? Check that logos are the most up-to-date versions.

PRINTING

Who will coordinate the printing process? (i.e. taking the master copies to the printers, checking that the printing instructions are clear, collecting the finished course materials, etc.)
Reviewing and evaluating course materials

If course materials are to remain up-to-date, contextually relevant and responsive, they need to be regularly reviewed and evaluated. This can take place at the end of each course, at two- or three-year intervals, or both.

Book 5 in this Course Developers’ Toolkit, Course Evaluation in Adult Education Programmes, provides a more in-depth discussion on processes, relevant methods and tools of evaluation. This section focuses very specifically on approaches to evaluating course materials in particular, but recognises that these ideas are linked to wider theories and methodologies of evaluation as described in Book 5.

The section below shares an instrument to review and evaluate course materials. This tool was developed during a Special Attachment Programme on Course Materials Development at the SADC Regional Environmental Education Centre, Howick, 10-20 February 2004. As you review your own course materials, you might choose to use it in this exact form, or you might adapt some sections.

Tool to review course materials

The purpose of this evaluation is to gain a quick but informed impression of the quality of the course materials. Record the following information about the course before you start reviewing the materials.

Name of the course

Qualification towards which the module contributes

Country
<table>
<thead>
<tr>
<th>ELEMENTS</th>
<th>CRITERIA</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>UNDERPINNING IDEAS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>History and context</td>
<td>The content presents a critical perspective on the influence of history</td>
<td></td>
</tr>
<tr>
<td></td>
<td>and context on current environmental issues and practice.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Different perspectives are presented to show a balanced view on the</td>
<td></td>
</tr>
<tr>
<td></td>
<td>influences of history and context.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>The perspectives presented are based on bona fide resources.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sources used are clearly and appropriately referenced.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>The materials encourage contextualising as a 'state of mind'.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Response to policies.</td>
<td></td>
</tr>
<tr>
<td>Critical reflection and</td>
<td>There is evidence of in-text questions that encourage learners to</td>
<td></td>
</tr>
<tr>
<td>reflexity</td>
<td>engage in the logical and critical development of the concepts that are</td>
<td></td>
</tr>
<tr>
<td></td>
<td>introduced.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>The reflection activities encourage the learners to deepen their</td>
<td></td>
</tr>
<tr>
<td></td>
<td>understanding of their own context.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>A variety of relevant readings are introduced to assist learners to</td>
<td></td>
</tr>
<tr>
<td></td>
<td>develop their critical thinking and analytical skills.</td>
<td></td>
</tr>
<tr>
<td>Participation</td>
<td>Learners are encouraged to weigh ideas against their own knowledge and</td>
<td></td>
</tr>
<tr>
<td></td>
<td>experience and to question ideas/concepts.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Learners' prior knowledge and experience are valued and used in the</td>
<td></td>
</tr>
<tr>
<td></td>
<td>development of new ideas and practices.</td>
<td></td>
</tr>
<tr>
<td>Social construction of</td>
<td>Knowledge is presented as open, changing and debatable rather than as</td>
<td></td>
</tr>
<tr>
<td>meaning and knowledge</td>
<td>fixed and not to be questioned.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Diverse viewpoints and experiences are reflected in the materials.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>The learners are encouraged to develop their own ideas and views.</td>
<td></td>
</tr>
<tr>
<td>ELEMENTS</td>
<td>CRITERIA</td>
<td>COMMENTS</td>
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<tr>
<td>-------------------------------------------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>----------</td>
</tr>
<tr>
<td>Integrated nature of theory and practice (praxis)</td>
<td>The materials enable the learners to understand how they are contributing to the body of knowledge about environmental education.</td>
<td></td>
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<tr>
<td></td>
<td>There is evidence of work-based activities that encourage the learners to gain new insights and improve their practice in the light of new understandings.</td>
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</tr>
<tr>
<td></td>
<td>The work-based activities are relevant to the context in which the learners find themselves.</td>
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</tr>
<tr>
<td>Environmental education processes of change</td>
<td>The materials emphasise the importance of transformation and change and they encourage learners to explore a range of change strategies to improve practice.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>The assessment strategy includes activities that invite learners to show evidence of how they have improved their practice through the application of what they have learned on the course.</td>
<td></td>
</tr>
<tr>
<td>Environmental education as a process of evaluation</td>
<td>There is evidence of a course evaluation strategy that reviews all components of the course in terms of the stated purpose and outcomes.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>The assessment strategy reviews the stated purpose and outcomes to ensure that the course remains relevant.</td>
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</tbody>
</table>

**ORIENTATION TO THE COURSE**

<p>| Introduction purpose and learning outcomes       | The purpose of the course is clearly spelled out in the orientation to the course.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |          |
|                                                 | The outcomes are linked to the purpose of the course.                                                                                                                                                                                                                                                                                                                                                                                                                                                             |          |
|                                                 | Learners have a clear picture about how the different components of the course fit together.                                                                                                                                                                                                                                                                                                                                                                                                                         |          |
|                                                 | Learners are clear about what they have to achieve in the course and in each unit through the provision of clearly stated and relevant aims and outcomes or objectives.                                                                                                                                                                                                                                                                                                                                      |          |</p>
<table>
<thead>
<tr>
<th>ELEMENTS</th>
<th>CRITERIA</th>
<th>COMMENTS</th>
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<tbody>
<tr>
<td>The introductions to the course and to</td>
<td>The introductions to the course and to the units within the course are</td>
<td></td>
</tr>
<tr>
<td>the units within the course are</td>
<td>informative and motivating</td>
<td></td>
</tr>
<tr>
<td>informational and motivating</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LEARNING AND TEACHING STRATEGIES</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Selection and presentation of content</td>
<td>The content is contemporary and reflects current thinking and recent</td>
<td></td>
</tr>
<tr>
<td></td>
<td>references.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>The content is contextually rooted.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>The content is appropriate to the intended learning outcomes.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Suitable readings are included and various devices are used to link them</td>
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</tr>
<tr>
<td></td>
<td>appropriately with the core text and the assessment.</td>
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<tr>
<td></td>
<td>The content recognises what the learners know already (prior learning).</td>
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<tr>
<td></td>
<td>The content unfolds logically between various sections of the unit and the</td>
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<tr>
<td></td>
<td>units in the course and tells a ‘good story’.</td>
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<tr>
<td></td>
<td>The content and activities provided enable the learners to achieve the</td>
<td></td>
</tr>
<tr>
<td></td>
<td>outcomes.</td>
<td></td>
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<tr>
<td></td>
<td>A variety of methods are used to present the content in order to hold the</td>
<td></td>
</tr>
<tr>
<td></td>
<td>learner’s attention.</td>
<td></td>
</tr>
<tr>
<td>Coherence of concepts, content and</td>
<td>The content and activities selected reflect the underlying ideas and</td>
<td></td>
</tr>
<tr>
<td>methods across units.</td>
<td>concepts.</td>
<td></td>
</tr>
<tr>
<td>Sequence.</td>
<td>Adequate links are created between the different concepts and content</td>
<td></td>
</tr>
<tr>
<td></td>
<td>within units and across the units in the course.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>The learning and teaching approaches and methods selected support the</td>
<td></td>
</tr>
<tr>
<td></td>
<td>underlying ideas and concepts.</td>
<td></td>
</tr>
<tr>
<td>View of knowledge and use of learners'</td>
<td>Various mechanisms are used to motivate learners to engage with the</td>
<td></td>
</tr>
<tr>
<td>experience</td>
<td>materials and to do the activities.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Enough scaffolding is provided to enable the learners to engage critically.</td>
<td></td>
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<tr>
<td>ELEMENTS</td>
<td>CRITERIA</td>
<td>COMMENTS</td>
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<tr>
<td>-------------------------------</td>
<td>---------------------------------------------------------------------------</td>
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</tr>
<tr>
<td></td>
<td>Sufficient and appropriate ways are used to enable learners to learn new concepts.</td>
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</tr>
<tr>
<td></td>
<td>There are frequent opportunities and motivation to apply knowledge and skills.</td>
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</tr>
<tr>
<td>Activities and feedback</td>
<td>The activities are clearly signposted and learners know where each begins and ends.</td>
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<tr>
<td></td>
<td>Clear instructions help the learners to know exactly what they have to do.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>The activities are related to the learning outcomes.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Activities are related to life and work.</td>
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</tr>
<tr>
<td></td>
<td>A variety of reflection activities are included at suitable intervals.</td>
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</tr>
<tr>
<td></td>
<td>Activities are realistic in terms of time indications and resources available to the learners.</td>
<td></td>
</tr>
<tr>
<td>Language</td>
<td>New concepts and terms are explained simply and these explanations are indicated clearly in the text.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>The language used is friendly, informal and welcoming.</td>
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</tr>
<tr>
<td></td>
<td>Learners are not talked down to or patronised.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>The discourse is appropriate to the learning intended.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>The language is sensitive to gender and culture.</td>
<td></td>
</tr>
<tr>
<td>ACCESSIBILITY AND LAYOUT</td>
<td>Summaries and revision activities are included at frequent intervals to assist the learners to learn.</td>
<td></td>
</tr>
<tr>
<td>Learning skills</td>
<td>Appropriate application skills are included in the materials (such as templates and other supporting tools to applying what has been learned to the workplace)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>The text is broken up into reasonable sections or units.</td>
<td></td>
</tr>
<tr>
<td>ELEMENTS</td>
<td>CRITERIA</td>
<td>COMMENTS</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>--------------------------------------------------------------------------</td>
<td>----------</td>
</tr>
<tr>
<td>Access devices</td>
<td>The numbering or heading system makes it easy for learners to find their way through the text.</td>
<td></td>
</tr>
<tr>
<td>(making it easy for the learners to find their way through the materials)</td>
<td>Headings and sub-headings are used to draw attention to the key points of the unit. This makes it easy for the learners to get an overview of the unit at a glance. It also makes it easy to find parts the learners want to refer to.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>There is a contents page that gives a useful overview of the unit.</td>
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</tr>
<tr>
<td></td>
<td>Cross-referencing helps to link with previous knowledge and experience, with other parts of the same unit and with other units in the course.</td>
<td></td>
</tr>
<tr>
<td>Visual aids</td>
<td>The visual aids complement the text.</td>
<td></td>
</tr>
<tr>
<td>(pictures, diagrams and cartoons)</td>
<td>Line pictures, cartoons are well drawn and appropriate for the target learners.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>They are sensitive to gender and culture.</td>
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</tr>
<tr>
<td></td>
<td>Where appropriate, concept maps and diagrams are included to help learners to get an overview of the materials and to assist the learning process.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Captions and explanations accompanying visual aids are adequate and give the learners a clear idea of their purpose.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Instructions/explanations accompanying diagrams are clear and learners know what they are expected to do.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Visual aids are well placed in the text.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Visual aids are of suitable size.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Where printed materials are supported by other media, use of the other media is clearly indicated in the materials and appropriate for the intended learning outcomes.</td>
<td></td>
</tr>
</tbody>
</table>
It is useful to have materials reviewed before they are finally printed. Sometimes we are asked to review course materials. It is important that reviewers pay attention to both conceptual and technical aspects. This source book concludes with the following example of useful review feedback, extracted from one reviewer’s feedback on a draft of the materials for the UNEP Mainstreaming Environment and Sustainability into African (MESA) Universities course. Notice how, as a reviewer, she paid attention to both conceptual and technical aspects of the course materials.

Comments on overall presentation of the course materials:
- Font and font size clear and easy to read.
- In module 1 headings need to be more appropriately formulated.
- Sub-headings in module 1 need to be more clearly identifiable.
- The table borders are too heavy and lack visual appeal. Not in context with the rest of the layout, e.g. the page margins, etc. The text spacing in the tables also needs attention.
- Graphics and diagrams sometimes look ‘crowded’. Too much in too small a space.

Comments on language use:
- Language used is accessible and appropriate.
- Sentence structure in module 1 is sometimes ‘heavy’ and could be simplified.
- The structuring of the text in module 1 needs to be attended to by providing more relevant headings and subheadings to guide the reader.

Comments on how the design of the materials support learning:
- Learning outcomes are provided and the content facilitates achievement of these outcomes.
- Activities generally assist the learner to meet the outcomes.
- The activities could at times be more focused on individual participants’ circumstances — related to initiatives/activities within their own department/institute/faculty rather than on the university as a whole. Participants from various levels in the university structure will be participating in the course and they might feel overwhelmed by being asked to focus on the ‘top level’ university structures. It might be more relevant to ask them to focus on their own level and what they can do at that level.
- Contextually relevant material has been integrated into the learning experience and opportunity for reflection on own circumstances and needs is also provided for.
- Learners could be alerted even more to incorporating local knowledge. Also suggestions of how to access local knowledge.
- Reflection is integrated into the modules in a meaningful way.
- Social transformation is supported.

Comments on technical errors:

**Module 3**

Pg 4  R&D — what does this stand for?

Pg 7  Review your university’s development planning — 2nd line … your university’s 3rd bullet — delete?

Pg 12  Last sentence should be bulletted

Pg 14  Reflection point — will additional readings on organisational change be included in the toolkit?

Pg 15  Include Meima in reference list

Pg 17  2nd paragraph … when they motivated for top management — perhaps lobbied

Pg 18  As mentioned above … as mentioned before

Pg 23  Let’s pretend. Delete question “What would you do”
References


Southern Africa is challenged by many environmental and development issues. Education has been identified as an important response to environmental and development issues. These source books have been developed to support course developers to strengthen aspects of course development in support of environmental and sustainability education processes.

There are five source books in this series:

Source book 1: Deliberating curriculum frameworks in adult learning
Source book 2: Supporting adult learning and tutoring
Source book 3: Course materials development for adult learning
Source book 4: Development, adaptation and use of learning support materials
Source book 5: Course evaluation in adult education programmes

The sourcebooks draw on the experience of a range of course developers in southern Africa, and are an output of the SADC Course Development Network, established by the SADC Regional Environmental Education Programme in 1999, and funded by Sida. The Course Development Network was strengthened with additional partnership funding and technical support from Danida between 2001-2004. Course experiences informing the books are drawn from a range of southern African country contexts including: Zimbabwe, Zambia, Namibia, Botswana, Swaziland, Lesotho, Mauritius and South Africa (amongst others). The source books therefore provide a regional vantage point on issues of transforming education to address Africa’s socio-ecological and development questions.

The source books are produced at the start of the United Nations Decade on Education for Sustainable Development, and aim to provide inspiration and support to other course developers who are trying to mainstream environment and sustainability into universities, colleges and other life-long learning courses.