DELIVERABLE 6

CURRICULUM FRAMEWORK FOR MEDIATORS TRAINING COURSE
'community-based social learning and NRM practices'

Jane Burt, Heila Lotz-Sisitka & Robert Berold

WRC project K5/2074/1

Change Orientated Learning and Water Management Practices

CONTENTS

ABBREVIATIONS

ADM	Amatole District Municipality
BRC	Border Rural Committee
CBNRM	Community based natural resource management
CBO	Community based organisation
CF	Catchment Forum
CHAT	Cultural Historical Activity Theory
COP	Community of Practice
CPA	Communal Property Association
DWA	Department of Water Affairs
ELRC	Environmental Learning Research Centre
IK	Indigenous Knowledge
IWRM	Integrated Water Resource Management
NGO	Non-Governmental Organisation
PhD	Doctor of Philosophy
PRA	Participatory Rural Appraisal
RSA	Republic of South Africa
SL	Social Learning
WfF	Working for Food
WfW	Working for Water

WM	Water Management
WRC	Water Research Commission
WRM	Water Resource Management
WUA	Water User Association
ZCBNRMF	Zambia Community based natural resource management forum

GLOSSARY OF TERMS

Action Research: A research-based approach to problem solving in which individuals work together in learning sets, supporting one another to frame and make sense of difficult situations, to work out potential options for managing these situations, and evaluate their progress as they try out these options in practice (Colvin, J et al. 2010, 89).

Activity System: The minimal meaningful context for understanding individual action.

Community of Practice: A group of people who are are collectively engaging in a similar practice, and who share a common interest in the practice. Through participation in the practice, and through sharing experiences and knowledge of the practice, members of the group learn from each other.

Cultural Historical Activity Theory: A framework and methodology for exploring the histories and cultures of activities as they take place in activity systems. It focuses on the changes that occur in our practices which leads to modifications in the way in which we think, interpret and act on our world. It rests on two premises: first, that the context we find ourselves in is central to how we develop; and second, that the way we learn is a social process which internalises the rules, values, norms and beliefs of the culture we find ourselves in (Stetsenko and Arievitch 2010, 237).

Dialectical: Dialectic signifies any process of social contradiction, conflict, interconnection and change, in which opposing perspectives or situations can be engaged, leading to transendence and more adequate modes of thought or forms of life. In this document we use dialectics to signify processes of engagement between 'what is' or how things are now, and how they could be, and how considering the dialectic between 'what is' and 'what could be' (between being and becoming) can help to shape a change oriented learning process. This is the way that dialectics is interpreted in critical realist thinking after Bhaskar (1993).

Focus Group: A research technique that collects data around a particular topic through group interaction, with questions being determined by the researcher and then presented to the group for discussion (Litsoseliti, L. 2003).

Knowledge flow: How knowledge moves from one group to another and influences practice. It can also mean how knowledge flows from practice to theory or vice versa.

Mediation: The means by which an individual acts upon or is acted upon by social, cultural and historical factors in human activity (Engeström in Daniels, 2008, 40).

Praxis: The relationship between theory and practice, where theories or ideas are enacted, exercised and applied.

Social Learning: An understanding that learning occurs when people engage with one another and share diverse perspectives in a trusted environment, usually around a collective action, leading to cognitive change, as well as changes in social action and changes in social units, activity systems and communities of practice.

LIST OF DELIVERABLES

Deliverable	Description
1. Review Document	Literature review and aligning of fieldwork planning and resource design with review.
2. Start up Document	Project design and identification of site for research.
3. Fieldwork report	Report on fieldwork and development of the resource.
4. Development of question driven resource publications based on analysis of practice in case activity systems	Question-driven resource publication and report on its development.
5. Design of community directed catalogue	Document setting out an approach to designing a community directed catalogue for mediating processes and expanding learning in WRM practice contexts.

6. Curriculum framework for mediator training programme	Mediator training programme.
7. Report on mediator training and learning in activity systems	Report on mediator training programme, which will include the piloting of the question-driven resource.
8. Final report & masters studies	Final report and Masters studies.

OBJECTIVES OF PROJECT

1. Identify and support the skills that are needed to mediate learning about water management practices in an Eastern Cape community. For this project, the practice of rainwater harvesting will be used as an example.

2. Research the development of a knowledge resource that could be used to develop the capacity of community-based mediators of water knowledge. The resource will be developed in response to and in support of an existing community-based water management practice in the Eastern Cape: for this project, the practice of rainwater harvesting in the Cata area near Keiskammashoek.

How this deliverable addresses the project aims

The first two years of this research process has focused on piloting a process of developing a written question-based resource as a mediation tool for learning in the context of local practices. The purpose was to assess the way in which learning emerges *from, and in relation to, practice*, providing a new perspective on 'knowledge flows'. Our interest was to ascertain what knowledge circulates in community based water management practices, and how people have learned or are learning these practices. Further, we wanted to ascertain the knowledge that community based rain water harversters are *interested in;* i.e. what questions are they engaging with as they engage with their practice.

From this process we have been able to identify the skills needed to mediate practice-centred learning. The insights gained into the meditation of knowledge in practice-centred learning have allowed us to design a participatory course for mediators and facilitators of learning at a local level. This deliverable is the curriculum framework for this course.

INTRODUCTION

The development of this curriculum framework is based on the findings of the first two years of the research project. It also draws on the expertise held within the ELRC as regards professional short course development and implementation, and the ELRC's ongoing research programme into change oriented learning and sustainabilty practices (Lotz-Sisitka, 2008)[1].

The course will be designed in a way that clarifies a particular learning approach, namely practice-centred learning, and will develop key skills to mediate practice-centred learning, using learning support materials such as the question-based resource that was pilot tested in the context of this project. The course will be designed to be expanded to a range of wider educational and social learning contexts, and will be run as a regular programme of the ELRC in future. Its construction and implementation will also be expanded for use in other WRC knowledge flow and social learning research contexts.

A link has already been made between this research programe and the WRC research programme '**Proposal No.1003153: Development of a strategy for knowledge dissemination and training for skills development of water use in homestead gardening and rain water harvesting for cropland food production'** which will start from May 2013 at the ELRC. In the latter programme, knowledge dissemination and use of WRC water harvesting and rain fed agriculture materials will be tested in three different mediation contexts (one of which will be this social learning course) to develop a knowledge dissemination strategy for community-based agriculture water knowledge.

---

[1] This WRC research programme is therefore supported and extended by this wider research programme.

PILOTING A PROCESS OF CHANGE ORIENTATED LEARNING

Below is a summary of the phases of this research project. This deliverable belongs in Phase D:

A: Understanding how people learn community-based water management practices in their contexts of practice.

B: Raising questions based on people's accounts of their practice to establish knowledge flow needs and interests.

C: Developing a learning resource based on these questions and based on an social understanding of practice-centred learning.

D: Documenting and reflecting on this process with the aim of developing a curriculum framework for mediation training and practice for organisations that support the use of new water management knowledge in contexts of practice.
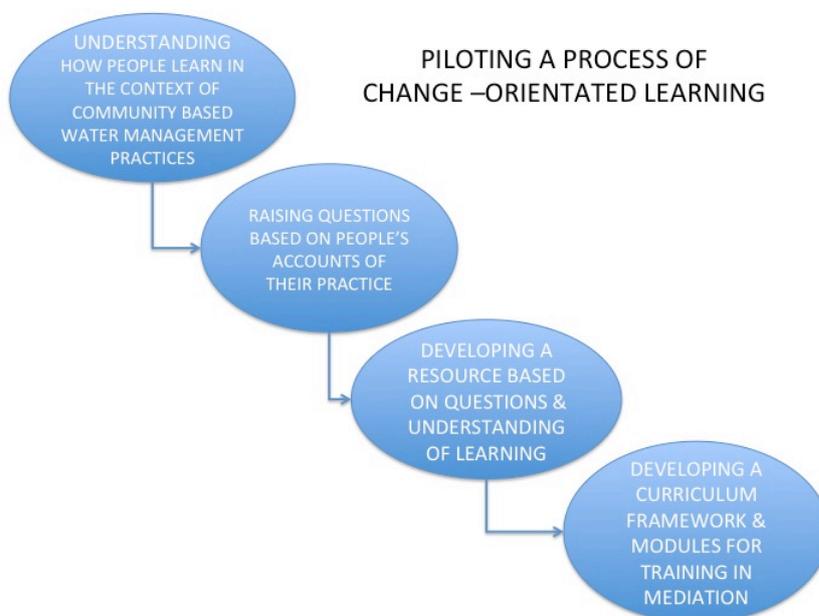

Diagram 1: The process of piloting the development of a practice centred, question-based learning resource, to inform mediators' training.

The table below highlights how the different research activities fit into the phases of developing the learning resource, all of which feed into the design of the curriculum framework for the mediators course.

Table 1: Research Activities in relation to the phases of the project

RESEARCH ACTIVITIES

UNDERSTANDING HOW PEOPLE LEARN	RAISING QUESTIONS BASED ON PEOPLE'S STORIES	DEVELOPING & PILOTING A QUESTION DRIVEN RESOURCE	MEDIATOR TRAINING PROGRAMME
• CHARLES PHIRI'S RESEARCH – "HOW DO COMMUNITIES LEARN THROUGH PARTICIPATING IN IWRM PRACTICES?" • REVIEW OF SOCIAL LEARNING & MEDIATION • NINA RIVERS RESEARCH - THE MEDIATING PROCESSES WITHIN SOCIAL LEARNING	• NINA RIVERS RESEARCH – THE MEDIATING PROCESSES WITHIN SOCIAL LEARNING	• DEVELOPMENT OF QUESTION – DRIVEN RESOURCE & CATALOGUE • PILOTING RESOURCE & CATALOGUE – NINA RIVERS RESEARCH	• DEVELOPMENT OF CURRICULUM FRAMEWORK • PILOTING & EVALUATING TRAINING PROGRAMME

Drawing on our research to develop the course

The focus of this research was to understand how knowledge flow is mediated in the context of local practices, based on the understanding that knowledge is actively constructed in contexts of practice rather than something that can be neutrally received.

The first phase of the research looked at understanding how people learn in the context of local water management practices. Research showed that learning was

most effective when it is incorporated into and supports practices that communities are already involved in (Phiri, P, 2011). The existing practice becomes the centre of a wheel around which many different learning opportunities can emerge, and where new knoweldge needs arise (Burt et al, 2012).

Research also showed that learning happens mostly through sharing, conversations, and storytelling (Phiri, 2011). It also showed that introduction of new knowledge via extension services and/or training programmes was important for changes in practice to occur, but such 'new knowledge' needed to be carefully linked to existing cultures of practice, and existing knowledge flows and knowledge needs in community-based practice contexts for it to hold meaning, and for it to become useful to people (Phiri, 2011).

How does this guide us in developing a course?

- *It is important for knowledge-practice mediators (extension officers, NGO workers etc.) to understand contexts of practice, and how people are learning in these contexts of practice.*

- *Mediation tools need to be designed in ways that support the practices that people are already involved in, and especially to address the questions that they have about their practices (or the issues they are struggling with).*

- *Mediation tools need to contribute to an ongoing, emerging process of learning where new knowledge can help to shape and inform existing practices in new ways. To do this, mediation tools need to relate to, draw on, and weave into the knowledge-practice narratives that are reflected in, and being told about a water management practice.*

Phase 2 of the research process collected narrative accounts of rain water harvesting practice in Cata. Listening to people's accounts of their practice helped us understand the choices they had made and they knowledge they needed to make those choices. It also highlighted any contradictions in their practice and gaps in knowledge, thus helping us to identify the knowledge flow needs in context. We also investigated technical specialist practices through conversations with specialists and written material. From these accounts we were able to draw up a series of questions

about rain water harvesting that had emerged out of current practice. The combination of examining the experiential knowledge of community-based water management practitioners, and of specialist water knowledge mediators *in combination* was necessary to give us a fuller understanding of knowledge flow needs.

How does this guide us in developing a course?

- *Generate questions from practice by listening to people's accounts of their practice.*

- *Examine available knowledge of such practices and relate it to people's accounts of their practice, to revise and refine the knowledge-practice questions associated with a particular water management practice.*

- *It is important to do BOTH of these processes (i.e. examine knowledge-practices in actual contexts of practice; and examine what is known about such practices i.e. the knowledge held by specialists). If we look at local knowledge alone, it is not always possible to expand learning, as local knowledge can become self-referential and too contextually inscribed. Similarly knowledge of practices produced elsewhere (e.g. in scientific institutions) can be too abstract or represented in ways that do not connect with practice. Using a question-based approach to learning mediation, based in and always related to – but not limited to - actual contexts of practice, can facilitate this double 'knowledge flow' process.*

Phase 3 therefore involved turning to the literature on rain water harvesting to help answer the questions generated from practice and to work with a specialist in rain water harvesting from the area. In our attempt to develop a catalogue of relevant resources and research to support the question-based learning resource we learnt that the best way to do this (from a contextual and access perspective) is to engage with and develop knowledge networks rather than rely on internet searches alone. This led us to identify available expertise, and to find the necessary specialist support for expanding the contextually defined knowledge questions. We found it very useful to work with a specialist with the requisite broader knowledge and

mediation expertise. He situated questions within broader socio-ecological questions to which people responded positively during focus group feedbacks. His input was therefore really important for the process of *expanding learning*.

How does this guide us in developing a course?

- *There is a process and skill in developing a knowledge network for the purposes of expanding learning.*

- *This includes being able to identify, access and select relevant local specialists to assist in verifying knowledge not only of a particular practice but of a practice within a particular context and how this local practice is situated within broader socio-ecological questions and concerns. They should have the capacity to extend local questions, and expand learning based on a wider knowledge of practices in responsive ways.*

Phase 4: Writing the practice centred, question-based learning resource

From the review we learnt that writing a learning resource based on questions that were generated from a local practice and weaving in stories of practice from the particular context, as well as from other knowledge sources, helped mediate learning. There were a number of reasons for this.

- People could recognise the context of the learning resource as their own, and they could identify with the practice-centred questions that were contained in the learning resource.

- The resource contained knowledge of practice that came from the local context. People could recognise this and also recognise that they knew this. The resource mediated prior knowledge and provided pathways for accessing new knowledge.

- People responded to different types of questions:

    - Practical questions
    - Socio-cultural questions
    - Questions around earth systems

The experience showed us that question-based learning resources should not only be focussed on 'direct practical issues' and a simplistic interpretation of practices as 'doing things', but should also be socio-culturally situated, and expand knowledge of how local practices are situated in and linked to other systems and processes.

We also documented what needed to be done in terms of writing, editing and design to make a practice-centred, question based learning resource accessible. The learning resource was written, edited and designed by people experienced in these areas, but during the process they reflected on the needs and skills of knowledge mediators who might need to produce their own support materials for facilitating learning.

How does this guide us in developing the course?

- *The knowledge contained in practice-centred learning resources should not be limited to technical aspects of practice ('how to do things') but should be extended with knowledge of socio-cultural aspects of the practice, as well as knowledge of how the practice links to wider systems and structures. Care should be taken not to simplistically interpret the notion of practice as 'technical action'. There is much more to practice-centred learning than this.*

- *Focus on the skills needed to develop accessible practice-centred, question based learning mediation tools – skills such as design, writing style and pedagogical approach.*

Purpose of course

This research project is concerned with knowledge flows. It seeks to understanding the complexities of knowledge-use-in-practice.

Its implementation objective is to support knowledge mediators and facilitators of community-based social learning to understand how knowledge is mediated in contexts of practice so that change oriented learning can occur.

Envisaged course participants:

The course will focus on how to mediate knowledge flows in situations where people are already engaged with practice, for example, an NGO working with access to water for small scale farmers. We will therefore target practising knowledge mediators (NGO workers, extension officers, community-based organisations, community leaders) as course participants.
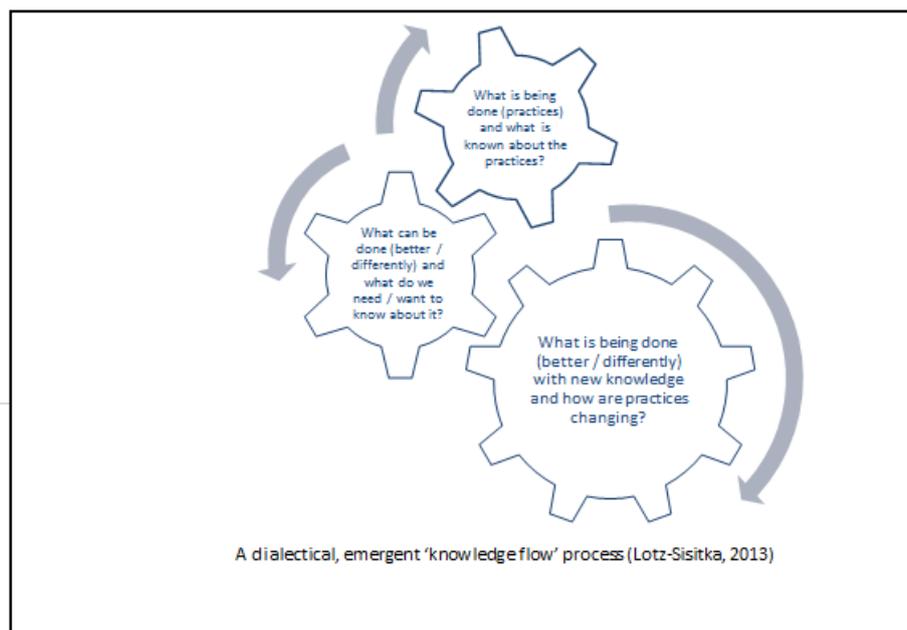
We also aim to *research* the implementation of the course, and to test out the concepts and tools that have been developed for the course. For the first implementation programme we will therefore only work with a small group of knowledge mediators. From there, the initiative will be expanded into a regular short course programme to be offered by the ELRC at Rhodes University to serve the water sector, as well as provide professional development training for natural resource management knowledge mediators in a wide range of contexts.

Education for Sustainability and Social Learning

This course is situated within a wider call for education for sustainability and within the context of natural resource management challenges on the African continent. One of the key themes in environmental education research in the ELRC has been to develop more appropriate ways of mediating and facilitating change oriented learning in the context of sustainability practices.

The ELRC change oriented learning and sustainability practices research programme has shown that:

- A focus on socio-cultural and social-ecological contexts and practices provides a

What is being done (practices) and what is known about the practices?

What can be done (better / differently) and what do we need / want to know about it?

What is being done (better / differently) with new knowledge and how are practices changing?

A dialectical, emergent 'knowledge flow' process (Lotz-Sisitka, 2013)

strong point of reference for mediation of learning, as this ensures that learning is situated, and emergent from contexts of practice. It reverses or substantively challenges traditional assumptions about knowledge flow i.e. that the 'knowledgeable other' simply has to share their knowledge in a uni-directional manner with those that are assumed to 'not know'. A practice-centred approach to knowledge and learning requires a *dialectical approach to knowledge flow – from 'what is and what is known' to 'what could be' and back to 'what is [emerging] and how' (Lotz-Sisitka, 2013, see* diagram below*)*. This WRC research project is showing what this means for learning support materials design and development, and how such a dialectical approach to knowledge mediation may be applied to the training of knowledge mediators in integrated water resource management contexts.

- Learning in the context of practice can be expanded in ways that lead to changes in practice. This requires reflexive approaches to mediation in which local contexts are understood, where practice questions and issues are uncovered as sources for new learning, and where new knowledge and stimulation is 'brought into context' so that it holds meaning, and expands current experiences and practices. Such changes in practice, when supported by knowledgeable, context- and practice-sensitive mediators, show evidence of agency development at individual, collective and relational levels – a process which is necessary for changes to occur. This results in social learning in communities of practice. Social learning does not just 'occur' – it is intimately tied to the development of human agency – our capacity to act. A practice-centred approach to knowledge mediation can expand human capacity to act, as it has the capacity to change practices and contribute to social innovation.

In response to this, the course is being developed as a platform where knowledge mediators working in NGOs, extension services, CBOs and other organsiations can challenges and concerns associated with their practices and how to support learning to the course. The very first assignment will involve them in contextual profiling and practice analysis. They will be encouraged to identify issues and concerns associated with the practices in their own context. They will then be asked to

translate these into questions that can be addressed with new knowledge that can be found in wider research-based knowledge resources, and in knowledge networks.

The second assignment will involve participants in identifying the issues and challenges of practice, and to translate these into questions for further learning. They will then be asked to source new knowledge from both local knowledge networks, and scientific knowledge sources. They will also be helped to develop question based learning resources that are relevant to their work, to internalise and engage with a practice-centred, contextual approach to designing learning support materials and mediation processes – the third assignment will support them to learn the skills to do this. And finally they will be encouraged to identify changes in knowledge and practice, and to evaluate change oriented learning, with a view to enabling ongoing learning and change. Their fourth assignment will involve reflexive review and monitoring of changes in contexts of practice.

The course is structured using a reflexive 'work together' / 'work away' structure that allows for engagement in mediation practices in between course sessions. Throughout the participants will be supported to engage with the communities they work with, drawing on an understanding of how new knoweldge can be mediated and supported into use in contexts of practice. Participants will learn the skills of how to mediate knowledge in response to questions of practice; and how to facilitate change oriented social learning and more sustainable water management practices.

The course itself will be monitored and evaluated, to assess how the process of supporting mediators to support change oriented learning and changed practices is taking place.

The Course Curriculum Framework

The course curriculum is informed by the research results discussed above, both internal to the WRC process where a specific process was carefully pilot tested, and based on wider research findings in the ELRC change oriented learning and sustainabilty practices research programme. The course curriculum framework is

based on the following curriculum framework principles (adapted from Lotz-Sisitka & Hlengwa, 2012):

1) *Practice-centred and Situated:* The focus of the course is to support the mediation of water knowledge, using mediation tools based on questions arising from the context of local practice. It will situate learning within the contexts of water mangement practice of relevance to the workplace of the participant. For this to happen, course participants will have to audit and review existing water management practices in their work context or community context or some other context of their choice. They will address questions such as: What practices are the people here using to manage water? How is this being done? Who is involved? What issues, questions or problems are people facing? What questions do they have?

2) *Responsive, Emergent and Expansive:* The course is designed to allow knowledge mediators to respond to questions that arise from water management practice in social-ecological contexts. The course design is a four module structure that allows participants to investigate questions in contexts of water management practice. They then identify relevant knowledge that responds to these questions through the use of knowledge networks, allowing for an expansion of learning in water management practices.

3) *Change Oriented and Reflexive:* The course will encourage practitioners to consider *how* learning can be expanded through introduction of new knowledge relevant to issues and questions arising in contexts of practice, so as to support change oriented learning and practice. It will also encourage participants to reflexively review their own practice as mediators, and to improve this practice through trying out new approaches to mediation of water knowledge in practice. For this to be possible, the course adopts a 'work together, work away' model over four sessions so that ideas and learning processes can be conceptualised, tried out, and reflected on over a period of time.

Aims, Objectives and Outcomes of the course

Aim of the course: To develop the competancy of water practitioners to support the improvement of local water practices, through social learning processes, towards sustainability, health and the well being of people.

Outcomes of the course:

- Understand how peopl learn in different contexts and the importance of context for learning.

- Understand practice-centred learning and how learning in the context of a practice helps people question, reflect and change practice.

- To be able to identify and generate questions about a particular local practice both in terms of local knowledge and specialist knowledge.

- To be able to identify an build a knowledge network by drawing on local specialists, other resources and up-to-date research.

- To be able to develop contextually specific mediation tools that create a platform for a dialogue between local knowledge (in the form of local stories of practice) and specialist knowledge, and that mediates discussion, reflection and dialogue by local people engaged in a particular local practice.

- To be able to use mediation tools to facilitate social learning processes that lead to a reflection on and change in practice.

Course participants

As mentioned above the course will focus on how to mediate knowledge flows in situations where people are already engaged with practice. The course has been developed so that people who work in different contexts can attend such as NGO's, CBO's, extension officers, journalists and activists. Level of education needed to attend the course will be a Matriculation certificate however, people with diploma's or degrees will also benefit from the course. The course will also benefit those who

have environmental expertise and want to learn how best to develop learning programmes or build compentancy in different communities.

Beneficiaries of the course will be local and regional government institutions, community-based organisations, NGO's, student bodies, schools, activist organisations and learning institutions.

Teaching the course

The course aims to improve the educational practice (this includes mediation skills and social learning) of practitioners in the water sector who work directly with different groups of people who are involved in activities that effect or are water management practices. The course has been structured so that participants get an opportunity to attend interactive and participatory workshop sessions and then apply what they have learnt to their own particular context in the form of work away assignments. These assignments will act as a step by step guide to applying and practicing what has been learnt during the workshop sessions.

Workshop sessions will be structured so as to allow participants to reflect on their own practice by working with their own stories of their practice, case stories (demonstration cases), practice sessions, fieldtrips and peer discussion and review. This will include developing social skills such as working with diverse groups, listening skills, observation and facilitation with attention being paid to issues of equity, tolerance and gender.

Workshop sessions will also integrate reflections on issues of equity, tolerance and gender. This cannot be ignored in the context of the South African social landscape.

During work away sessions participants will have two telephonic contact sessions with facilitators of the course.

Description of the Course

The course will consist of four contact sessions of two days each and four 'work away' assignments that will feed into work that the participant is already doing.
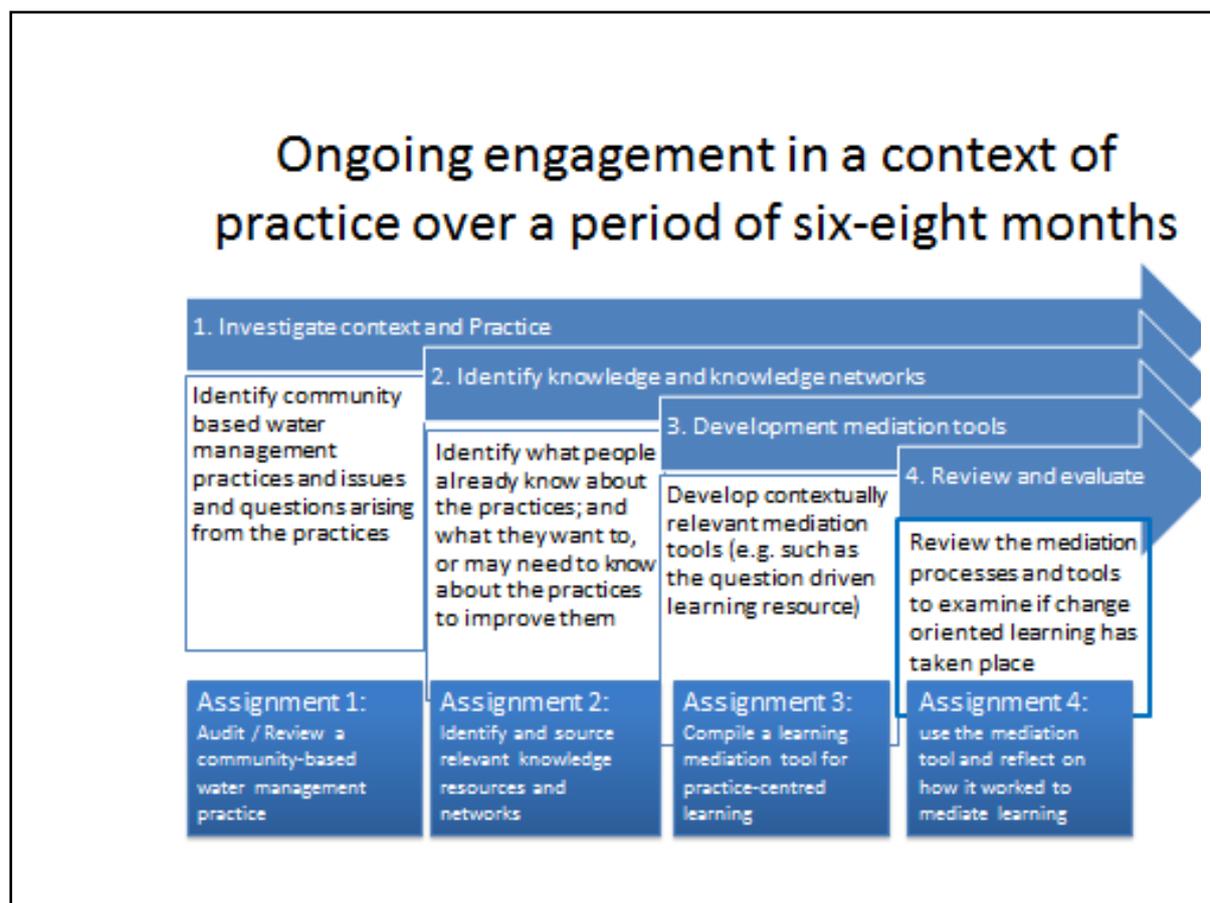
The course model can be outlined as follows:

Units and Proposed Assignments

Unit	Focus	Learning	Assignment
1. Investigate Context and Practice	Understanding context – How do people learn? What water management practices are people involved in? How are they going about their practice? What are they doing? What are they struggling	This unit will deal with the following aspects: • Developing an understanding of context: How to engage with local people so as to understand the context	Description of context and practices and identifying key questions emerging from practice.

	with? What questions are being generated from practice?	of their practice and how they learn. • Generating questions from practice: How to audit practices and how to collect local narratives of practice. How to identify questions of practice out of local narratives.	
2. Identify knowledge needs and knowledge networks; and available mediation tools	Identify what knowledge exists in the community of practice, and what knowledge is needed in the context of practice Introduction to how one would source and identify new knowledge resources and establish knowledge networks.	This unit will deal with the following aspects: • A guide to developing a knowledge network. • How to start accessing relevant research knowledge and specialists?	A knowledge network resource.
3. Mediation of knowledge using mediation tools and learning resources: Pilot and Respond	Introduction to different approaches to mediating knowledge in relation to practice such as: • Written resource • Workshop • Poster • Community drama How to develop a mediation tool based on contextual questions and	This unit will deal with the following aspects: • An overview of the kinds of co-learning approaches one can use when mediating knowledge, and how to choose an approach. • Skills and techniques for developing a learning resource:	Design and develop a draft learning resource & plan for co-learning, and knowledge mediation using the learning resource

	drawing on knowledge networks? How to link new knowledge to existing knowledge and practice?	writing, editing & design • Skills for using and testing out a learning resource	
4. Review and Learn	How to expand/finalise/ improve mediation tools and approaches and use mediation tools for change-orientated learning.	This unit will deal with: • Learning to rework learning resource according to piloting process. Reflecting on change-orientated learning in contexts of practice.	Final learning resource and reflection on the process of mediation and developing a mediation tool.

REFERENCES

Lotz-Sisitka, H.B. 2008. Change oriented learning and sustainability practices. A research programme proposal submitted to the South African Qualifications Authority. April 2008, Rhodes University Environmental Learning Research Centre.

Lotz-Sisitka, H.B. 2013 (in press). Change oriented learning and sustainability practices. A synthesis. Paper prepared for a book on Change oriented learning and sustainability practices for the South African Qualifications Authority / RU research partnership programme.

Lotz-Sisitka, H.B. & Hlengwa, A. 2012. *Seeding Change.* 'Seeding Change': The social-ecological condition and professional development of university teachers. Paper presented at the International Critical Realism Association Conference, Rhodes University, July 2012.