

Water and society

Learning about learning in water resource management

Sharing water knowledge with stakeholder communities in an adequate and appropriate way is a challenge faced by many water-related institutions. Jane Burt and Robert Berold shed some light on what they've learned about engagement.



In recent years, water management practice has shifted away from a 'technicist' approach, with its focus on building dams and laying pipes, to a broader approach which includes people as well other natural resources like land. This change has come about through understanding that it is not possible to manage water without knowing what people need, how they understand their water resource, and what role they have in managing it.

Knowledge mediation

Learning is always mediated. In the water sector a mediator may be someone who is formally employed to impart knowledge (e.g. an extension officer or development fieldworker), or he/she may be informal and unpaid but still in the mediator role. Here are some definitions of a mediator:

- A mediator is an individual who re-interprets knowledge in a way that is relevant to a particular water

practice and to those involved. Most people feel that the best learning is direct human-to-human interaction as opposed to learning from instructions taken from a book or from the Internet.

- A facilitator (another term for mediator) is one who contributes structure and process to interactions so groups are able to function effectively and make high-quality decisions, a helper and enabler whose goal is to support others as they achieve exceptional performance.
- A mediator/facilitator is someone who encourages full participation, promotes mutual understanding and cultivates shared responsibility.

Why we need mediators

Even when a community audience is literate, a written learning resource is not very useful unless mediated. A skilled mediator will re-interpret written knowledge in a way that is relevant to those involved.

A good example of effective mediation was reported by researchers at the University of Cape Town who had been trying to work with communities on problems of contaminated water (grey water and black water). Working with three informal settlements outside Cape Town, they provided the communities with the materials they needed to filter contaminated water that was running into stormwater drains, providing a written learning resource which showed how to build the filters.

However, only one of the three communities took up the challenge and actually built the drainage system. The researchers found out that this community had been working closely with a local non-governmental organisation (NGO) as a knowledge mediator. The NGO had held workshops, using the written learning resource to explain the benefits of building the drainage system, and how to build it, and this had made the difference.

Designing a learning resource

The whole sequence of the production of a learning resource has to be thought through from beginning to end: assessing the target audience, writing the resource, editing and design appropriate to the audience, the question of whether translation is necessary, deciding who should receive the resource and thinking about how they will be able to get hold of it, whether a series of workshops is required to do this, and the funding for all these processes.

Our research found that while there was no shortage of water research knowledge, this knowledge was rarely presented in a way that was understandable and accessible to non-specialists and that took into consideration context and how context mediates learning.

How learning is socially embedded

Although there has been greater awareness in recent years among researchers about target audiences and their needs, we still tend to see learning resources as stand-alone instruments of transferring knowledge, independent of context. However research has shown that learning happens most effectively when it is socially embedded. It is important therefore to look at resources as mediation tools and think of the mediation practices that go with them.

Researchers in two case studies from the Netherlands observed that knowledge emerges out of practices situated in their specific contexts. Simply put, *how* people know something comes from *what they do*. Therefore how people know about water management comes from how they actually engage with water management. In the same way, learning resources are more effective when they engage learners with water issues as they experience them, in their local context.

The researchers in these case studies observed that people who reflected on knowledge together developed a deeper understanding of their practice than those who reflected alone. If shared reflection leads to deeper understanding, it is important that

we create spaces which bring people together to reflect on what they do and how they do it.

Most learning resources are not designed to encourage people to question what they do or consider how to adapt it. There is an assumption that correct factual information will logically be adopted, and will change people's behaviour. What we and many others have found, is that factual information is not persuasive enough. Learning resources work more effectively when they ask learners to think about their local water issues, to enquire about what they are doing and why they are doing it.

Knowing how we know

Whether or not we consider it our field, if we want to communicate with people, it will help if we have some understanding of theories of learning. In particular, we should ask ourselves: Will the resource we want to develop only inform (offer facts) to people about a practice, or will it go further and engage people in thinking and reflecting on what they do? Underneath this question is the deeper question of how we know and how we learn.

Facts alone do not lead to changes in practice. After all, most smokers know that smoking is bad for them, but this does not make them stop. Likewise most of us know that the way human beings treat the environment is damaging us in the long run, but we can't stop because we depend on so many structures that harm the environment.

We choose rather to ignore the effects of our actions, or we believe it is too difficult to change, or we try to change but meet overwhelming obstacles. If I am environmentally conscious in my private life, but work for a mining company that is a known water polluter, will I give up my job?

We need technical expertise to solve technical problems, such as a leaking dam wall. But in order to diagnose such a problem (why was did the dam wall start leaking), and to resolve it in its context (who is responsible for fixing the dam? For maintaining the dam? Do they have the knowledge and resources to do so?) we need social learning theories that

consider how people learn from each other. These theories show us not only how to provide information, but how to collectively transform practice.

Generating a learning resource from practice

In our research we wanted to see what would happen if we developed a written learning resource starting from questions arising out of a current practice. The learning resource would be constructed via a dialogue between what people were doing already and what research knowledge was saying should be done.

We also wanted to see if learning resources could be developed by on-the-ground mediators themselves. Such resources would be different depending on the specific water practice being carried out, the context in which it is carried out, and the individual mediator who is developing the resource.

In order to do this, we identified and brought together a number of water mediators working in different areas of the Eastern Cape, each with different water problems ranging from watering of school gardens to pollution of rivers. The resources that they developed documented both the learning that had taken place around their particular water practice and the questions that had arisen out of that learning. The objective was not only to produce the resource but to experience the process of developing it.

After piloting this approach we developed a course for water activists (including NGO and NPO staff) which is accredited through the Environmental Learning Research Centre at Rhodes University.

We are now in the process of running this course in collaboration with the Environmental Monitoring Group as part of a Water Research Commission project that looks at the monitoring of the National Water Resource Strategy 2 (NWR52). The course is being run for members of the South African Water Caucus to strengthen their ability, as civil society activists, to ensure and monitor the implementation of the NWR52.