

# USING EDUCATION TO YOUR ADVANTAGE

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## Abstract

Changing the behaviour of the community is a crucial element of the work of those employed in water authorities, councils, catchment management authorities and government agencies. This paper provides a brief guide for engineers, scientists and others working in the water industry about the hows, whys and wherefores of education. Unlike engineering, education is an inexact science; a mixture of science and art, mastery, magic and fun. Like engineering, however, there are specialist skills in the design, delivery and evaluation of education that are well understood by those specialists who engage in education. In general they are poorly understood by those who specialize in other areas and dabble with using education.

Following the tips in this paper will assist you to engage your community more effectively in education about water-related behaviour.

## Introduction

The use of education is in a unique situation in the water industry. On the one hand, education is often seen as the panacea for gaining community engagement to improve water quality or to reduce demand and/or even get people to pay their bills. The common rhetoric is "we need to educate the community", whenever there is a significant change or crisis. Even when the status quo is being maintained, there are continual calls for educating people more effectively.

On the other hand, education is often not evaluated or used strategically by the range of water agencies. There is limited professional development for those who plan and deliver education about water, or for those who might do so. There is often less opportunity for training those professional staff who use education as a tool but are not education specialists.

*Education can:*

- Increase knowledge (and awareness),
- Improve skills,

- Challenge attitudes and feelings and promote responsible values.

Schools programs are often conducted, but there are few programs targeting adults at home or during recreation. For people at work, there are even less education programs focusing on operational change in the factory or the office. Even in the current "water crisis" across the country there are relatively few tightly targeted and evaluated education programs being conducted.

## Why is Education Under-Used?

Why is this so? It is not possible to answer this question with precision; however some indicators of the answer are:

- There is a limited understanding of and evidence for the effect of education on behaviour. *"Don't I just have to tell them what to do; give them the facts and they will just do it?"*
- People across the water industry are understandably technically focused and fail to appreciate how education of their communities might assist their cause. *"I don't know how to add an education component to my project."*
- Limited funds are provided to deliver education programs and often specialist expertise is not employed in its design or evaluation. *"If only I could get a specialist educator to do this."*
- For too many people education is what happens in schools. This is not accurate, because learning happens throughout life. It is not appropriate when we are facing a water crisis now and we need to change the behaviour of the adults in our community who are impacting on water now. *"OK, we don't just need a school's project but how do I educate people in the community?"*
- The expectation that education is simple and anyone can do it. *"Even though I cross the bridge every day, I am not an engineer. Similarly, just because we all went to school that does not mean that we understand all about education"*.
- Conversely people lack skills in running education programs that influence behaviour and there is limited professional development available. *"I'd like to use education more but we don't have an education officer to do it and I don't really understand how it works."*

## What Might You Want to Use Education For?

Of course this depends on your business or your specific project. In general terms, when you engage your audience (customer) you might want them to do some or all of the following:

- Buy your product or service.
- Seek your input, opinion and/or advice.
- Change their behaviour, e.g. to reduce water use or pollute water less.
- Enhance the credibility (marketing capacity) of your company.
- Pay their bill.

The first issue for you is to be clear about what you are trying to do. It may be that you want to achieve more than one objective. If that is the case identify them and rank them in order of priority.

In essence, the answer to the question, "What do you want to use education for?" identifies the problem or issue you are trying to address. Good education planning always starts at this point.

**The first tip is to know what you are trying to engage them about. What is the problem you are trying to solve; what is the problem behaviour?**

## Who Are Your Audience?

In order to use education efficiently and effectively it is essential that you define your target audience as precisely as possible. This involves going beyond a mere demographic profile. Certainly it is important to know and understand the age, gender, education level, socio-economic profile, etc of your audience. But you also need to be aware of a lot of other information, for example:

- How they learn?
- Where they currently receive education messages from?
- Do they read pamphlets, newspapers etc?
- Who are the champions within their community; will they listen to these people?
- Are there other programs or social norms on which that you can build your program
- What are the barriers to people changing their current behaviour and taking up a more desirable behaviour?

In designing any education program it is important to talk with stakeholders in order

This paper is loosely based on a presentation given by Grahame Collier at the NSW AWA Heads of Water Conference August, 2004.

to define your audience closely. There are people out there who know things about your audience that you need to know. Find them and talk with them. Pick their brains about whom it is you are trying to educate and how you reach them.

**The second tip is to know your audience.**

## What Drives People's Behaviour?

The specific outcome of most education programs is the drive towards behaviour shift. Getting people to do something differently and to reinforce appropriate behaviour is the ultimate goal. People's behaviour is affected by a range of motivators. These are highlighted in Table 1.

Of these, a number are specifically related to the education process, e.g. growing knowledge, building on passion, using champions, demonstrating responsible behaviour. But it needs to be acknowledged that other drivers of behaviour exist and can be used by policy and program providers.

While there is no direct, consistent linear relationship between improving any of these and gaining appropriate behaviour outcomes, all are precursors to behaviour change in different ways with different people. To promote behaviour-shift, education should be used in close conjunction with other tools.

**The third tip is we have lots of motivators for engagement going for us. We would be best to use whatever behaviour possible to drive people's behaviour.**

Table 2 provides some detail about the use of some of these motivators to engage the community.

## How Do You Identify the Barriers to the Behaviour You Wish to Encourage?

It is important to identify the barriers that may inhibit your audience. The more information you are able to obtain, the greater chance you have for success in meeting your objectives.

There has been research carried out in Australia and overseas relating to the barriers for a variety of behaviours, so initially a literature review should be conducted. Following this, qualitative research through focus groups and observational studies may be carried out to scope the deeper attitudes and behaviours of your target audience. If you then wish to enhance the knowledge of barriers in the community further, reliable information may be obtained by undertaking surveys of the proposed audience.

**Table 1. Motivators for Behaviour Change**

Passion
Demonstration
Crisis
Knowledge
Regulation, laws and fines
Kids (future generations)
Proximity
Champions
Dollars
Location

So that you can see the point of this step, some examples of the barriers that you might identify through this process are listed below. Note that this list is illustrative only and is not exhaustive.

- The audience may have a low level reading ability; therefore to distribute a brochure requiring a high reading age would be a waste of time.
- The audience might not be able to attend evening events if child care is not provided; therefore run events at other times and/or provide child care.

- The audience do not read English well; therefore print material needs to be low literacy or translated into community languages.
- The audience do not place a high priority on acting on your particular water issue therefore you have to raise their interest in the issue.
- The audience accept the need and the issue but don't know what to do about it; therefore education needs to be directed at providing realistic, alternative behaviours and not to waste time on explaining the need.

**The fourth tip is to identify the barriers to the behaviour you wish to encourage and to ensure your program is designed in such a way as to avoid or deal directly with these barriers.**

## Education: Goals, Objectives and Outcomes

To conduct effective education programs you have to know what you are intending to do and what you are intending to achieve by doing it. Like every area of human endeavour, education is full of jargon. What you are intending to do is a *goal* and this can be broken down into

**Table 2. Motivators Available for Community Engagement**

Engagement By...	Example...	Comment
Crisis or Event	<ul style="list-style-type: none"> <li>• The oil spill in Sydney Harbour</li> <li>• The Pooh Marches</li> <li>• The drought</li> <li>• Falling dam levels</li> <li>• Water restrictions</li> </ul>	Crises hurt and it's hard to manufacture them. When crises occur it is important to use them to promote more responsible programs. However in most circumstances it is not appropriate to base the whole education program on them; because when the crisis passes so will the program.
Hip pocket	<ul style="list-style-type: none"> <li>• Paying what it really costs</li> <li>• User pays</li> <li>• Incentives, rebates and subsidies</li> <li>• Financial Rewards</li> </ul>	Hip pockets and political/organisational credibility are always intertwined. If the community is being asked to pay more then related education is required to explain why and to seek community support.
Knowledge	<ul style="list-style-type: none"> <li>• Information provision</li> <li>• Appealing to a rational, common-sense response</li> <li>• Just explain and they will do...</li> </ul>	While knowledge is an important issue too much information can be counter productive; Some people know lots but "don't always do" OR "don't always do what they know."
Attitudes and feelings	<ul style="list-style-type: none"> <li>• Passion</li> <li>• Concern for future generations</li> <li>• Motivation and visible activity</li> </ul>	"Passion" works for some people some of the time. Early adopters and champions often are motivated by passion. But it is not necessarily a useful tool for others because sometimes it gets in the way and puts people off.
Location	<ul style="list-style-type: none"> <li>• Proximity to water is a motivator</li> <li>• Recreational use of water</li> <li>• Need for water to support livelihood</li> </ul>	While there is substantial research to support the proximity to water theory it is not a perfect motivator. Not everyone is "located" near water and of those that are, not all are engaged in reducing water pollution or reducing demand.
Regulation	<ul style="list-style-type: none"> <li>• Penalties and offences</li> </ul>	These do have a deterrent affect on behaviour when they are visible and appropriately enforced. They establish a benchmark for what the community is prepared to accept. BUT just having a law on the statutes without enforcement is useless.

*objectives* that when fulfilled will mean that the goal is achieved. What you have achieved at the end of a program are the *outcomes*.

Therefore an education program that you might conduct might be shaped as outlined in the following example:

*Goal:* By 2007 all residents in the .....will reduce water use by 20%.

*Objectives:* As a result of the water education program residents will:

- Increase the use of AAA rated showers by 20%.
- Install dual flush toilets in 100% of new houses.
- Retrofit installation of dual flush toilets in 10% of existing premises.
- Reduce garden water use by 20%.

#### *Outcomes*

These will measure the extent to which the objectives have been met. They are stated as outcomes of the program. For example 7% of the people in... have installed dual flush toilets in their houses. This means that X% of people have dual flush toilets.

Goals, objectives and outcomes always relate to the knowledge, skills and/or attitudes that you want to achieve through the program. They do not relate to the **methods** of how you are going to achieve these things. For example many people think that "distributing 2000 brochures" is a program objective. WRONG! It is a method of the program; it indicates how we are going to deliver our program. The objective is what reading the brochure is going to help people to know, to believe or to do.

**The fifth tip is that all projects must clearly state goals and objectives. Outcomes should be identified and measured (see below).**

### Evaluating Our Education Efforts

Education efforts are always under scrutiny. Do they work? Are they value for money? Surely it would be easier just to pass a new law or establish a regulation?

Two important responses are desirable to these important questions. The first is that education must support other efforts. Just having a dual flush toilet available will do nothing to reduce water demand. People have to know it's available; they have to see that the advantages outweigh the extra costs; they have to know how to install it etc. This involves the effective integration of education efforts.

Second, education programs must always be evaluated. All objectives should be measured. To what extent were they achieved? What were the outcomes of the

program? Evaluation can be defined as the process (collection of judgments/measures/ observations) about how the program operates and the effect it is having. This must be as objective as possible and data on which the judgments are based should be collected from as wide a range of sources as possible.

Space does not allow for a detailed outline of how to undertake evaluation however, the NSW EPA (2004) document, *Does Your Program Make a Difference: A Guide to Evaluating Education Projects and Programs* is a very useful guide to how to evaluate effectively.

**The sixth tip is that all programs should be evaluated in order to determine whether its objectives were met and what outcomes were achieved.**

### Education and Trust

If you are going to attempt education that changes behaviour about water, which most people take for granted, then they have to trust you as a credible source of information and education. Water authorities who are trusted sources of water are also trusted sources of information about its use and quality. Becoming a credible education source also assists the water authority to further its broader image. In order to achieve this reputation some current or potential water education providers are:

- Working hard on creating an image that is acceptable to their audience.
- Working in partnership with other agencies in order to conduct joint education programs.
- Pooling resources and expertise so as to use joint educative efforts.
- Engaging experts to assist them to run (and/or evaluate) effective education programs.

**The seventh tip is that you have to be a credible education provider to your audience in order to gain their trust.**

### Researching and Piloting your Education Program

Research is an important component of any education program. It can assist in the design and delivery of the program and also allow you to gain a better understanding of your target audience's attitudes.

Educators (those who deliver education) are happy to share their experiences and even the content of their programs. So why reinvent the wheel? An important component, particularly for wide reaching education programs, is a pilot program. By piloting the program, to a limited but representative audience, important improvements can be made. To find that

your full program contains some major limitations is far more costly in the long run.

In relation to responsible water use, the following summary data is drawn from the NSW Who cares about the environment study (2003) and the most recent ABS data (2004).

- 57% rank water as the most important environmental issue. This compares to air (37%) and flora and fauna protection (21%).
- 17% rank water issues as the highest priority for the NSW Government; compare 12% for education and 10% for air quality.

More than 90% of Australians reported conserving water in the garden, usually by mulching (59%). More are using recycled water on the garden (18% in 2004 versus 11% in 2001), planting natives (17% from 10%) or not watering at all (10% up from 6%). Water conserving devices were used in 82% households in 2004, principally with dual flush toilets (74%).

**The eighth tip is to take a look at what is already out there and if possible pilot your program before rolling out to a wider audience.**

### Planning Your Education Activity

Just like the construction of a sewer or a house, education must be planned in a detailed and comprehensive manner. Effective education does not just happen. An immense amount of hard work goes into its planning. While there is no blue print, every program should have a tangible plan of what it is intending to do with whom and how it is intending to do it and evaluate it. The EPA (1997) booklet *What we need is a community education project* is a useful guide to all those who are developing programs. It will provide you with a step by step guide about planning your program.

Just letting education 'happen', and building on it opportunistically when it does, is not good enough. Maybe it is even counter productive because when it fails to meet its objectives, you don't get funding for another attempt.

**The final tip is that you have to plan and work at it.**

### Conclusion

Strategic, quality education programs set themselves apart from the rest because they are research-based: they are programs built on knowledge. They identify the problem that is to be addressed and they intervene in the most appropriate ways to address that problem with the audience; they promote change. For example, in NSW over the past six years education has been used in

relationship to stormwater quality. Although there is still more to achieve people are washing their cars less and from buckets, they are washing out their paint brushes on the grass, cleaning up dog poo, binning their cigarette butts more, and not disposing of green waste in creeks, drains and rivers. These were all identified as problem behaviours when the program was first planned.

Good education programs are a mixture of science and art, mastery, magic and fun. This is not to suggest that hunches, intuition and professional judgments don't play a part. In fact, they are vital at the right time and used in the right way.

All water authorities have a responsibility to use education as much as possible and as effectively as possible. All non-education specialists in the water sector (engineers and scientists) can use education more effectively if they follow the brief hints in this paper.

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The following references are important reading for those involved in delivering and evaluating education.

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