

STILL IN SCHOOL

Marty Hoffart
Waste Minimisation Educator
Environmental Education for Resource Sustainability Trust
Contact: eerst@xtra.co.nz, PO Box 2523, Tauranga

Introduction

So, you want to minimise waste in your community.

You've figured out school education is essential because today's environmentally savvy children are tomorrow's environmentally responsible adults. Now, you need to know the best, most efficient way to get that reduce-reuse-recycle message into schools and young minds.

Six years ago, I began work as a waste minimisation educator with EERST Trust. In that time, several thousand children and their teachers have taught me what works best in schools. And, 34 years after starting school, I'm still here cutting up milk bottles, collecting sticks and leaves and making folders out of cereal boxes.

In New Zealand, the waste minimisation education options are many and varied. Some programmes send specialist educators into schools to teach wide-ranging classes and some focus on specific projects or waste collection services within a school. Others, like Enviroschools, take a look at several aspects of the school environment and work with a group of representatives from the school. Some local councils choose to send school resource kits and information to schools or conduct tours of facilities like transfer stations and landfills.

The Bay of Plenty's zero waste in schools programme is one of the country's largest, most widely used school-based waste minimisation education programmes. The school programme was launched by Tauranga District Council and was created by Bruce Trask, a former teacher and school principal. In the last decade, the programme has seen tremendous growth. It is currently supported by three councils and it reaches about 20,000 children annually, as well as hundreds of teachers and caretakers. The message flows home and into the community. Waste minimisation educators also deliver recycling and waste reduction messages to community groups such as garden circles, service clubs and environmental groups.

This paper provides detailed information on initiating and operating an effective waste minimisation education programme in schools.

Getting started, getting into schools

First of all, trying to get a waste and recycling education programme into schools is not easy. Many organisations recognise that getting into classrooms is a valuable way to get their message directly to children and families. So any school visits must compete with organisations like:

- Life Education Trust
- Music Groups
- Dance Groups
- Story Tellers
- Arts Groups
- Bands
- Science and Technology
- Sporting Programmes
- Bibles in Schools
- DARE- Drug and Alcohol Programmes
- Civil Defence
- Coast Care and Storm water programmes
- Cycle safety
- Emergency services – police, fire service

Schools are busy places and teachers are generally working at full capacity and struggling to keep up with increasing demands. The last thing most teachers want to deal with is squeezing another visitor or programme into their already tight schedule. If teachers perceive a new programme or recycling system as extra work for them, most want no part of it. Each year, teachers seem to have more tasks lumped into their already busy days. Trying to organise a visit or school-wide recycling programme can create a scheduling nightmare. Some intermediate schools have more than 1000 children and up to 40 classrooms.

Schools also plan a year in advance, so extra activities need to be made the previous year to avoid school camps, other visitors, cross country, school productions, exchanges, visits from the Education Review Office and so on. *Book your school visit 12 months ahead.*

It helps to provide an outline of the programme for each teacher and to show them any workbooks or worksheets. It is also essential to explain how the programme meets the curriculum objectives, ie where it fits into the school curriculum. Teachers will accept the programme more readily if they can plan to integrate it into the work they are doing in any one of several subjects.

Most teachers do feel that taking part in a waste reduction education programme is worthwhile and most students enjoy the topic as well. Having a specialist teacher or visitor with up to date information and an interesting topic is usually welcome.

Know who you're dealing with

Understanding the age your programme will target and catering to that age level is essential. Five year olds and seven year olds have very different levels of comprehension. Also, the actual time spent on a subject or activity with the children varies with age.

Every school is different as is every classroom. Some classrooms have excellent behaviour and very high expectations while others may have lower expectations or a new teacher, very difficult children with severe behaviour management problems, a substitute teacher for the day or teacher that simply cannot manage problem behaviour. Unless you have experience in this area, it can make what appears to be pleasant school visit into a very difficult time. Your message may be lost, as your time will be spent trying to simply get the children to listen. It is a requirement of the programme to have the teacher present in the classroom while the lessons are taught.

New entrants or first year children have an attention span of about 20-30 minutes and each activity should last for about five minutes. For example it is usually a good idea to begin with a story geared to that level, then perhaps reinforce it with something visual like a pile of squashed aluminium cans. The larger the object, the better the response from this age group – they will quickly lose interest in passing small objects around. Playing a game or singing a song is always good and, ideally, finish with a large picture for them to colour and take home.

Many children cannot read or write well at this age, so putting words on the board or words on a sheet of paper is often a waste of time unless the work is designed to go home to parents. Forget the white board or chalkboard with this group.

Note, young children will willingly raise their hands to ask questions. However, their questions are more likely to relate to their pet rabbit or what Dad did at the weekend than any waste-related matter. In general, keep hand waving and question time to a minimum with this age group. Just talk to them and get them to do activities. Don't worry too much about taking questions.

The next level up is probably one of the easiest years to teach or visit. Seven and eight years olds are old enough to sit still, listen well and – importantly – they still want to please adults! They are year three and four students or – for you oldies - standard one and two classes. This is a good group to trial waste minimisation programmes on. They have a few years practice at school and most have not developed a negative attitude to visitors and learning yet, something that can make older children a little more difficult to manage.

Year three and four children like to fill in words and colour pictures. Most of them can spell simple words, although there can be a big difference between the years three and four. Some schools have composite classes, which means the year three and four children are together and some have the years separate. A workbook for this age group is a good idea and the children can complete about two pages of work each day if you work along with them. While children at this age can write simple sentences, filling in the blanks will usually keep them busy and quiet for at least 30 minutes. This method also allows you to maintain control of the classroom by setting the pace at which they work. Beginning each class with a story is also a good way to control the behaviour as the children must settle down and sit quietly for you when you enter the classroom. It is a good behaviour management technique.

At this age, class contact time can be extended to about 40-45 minutes – that means exactly six classes can be taught in a day. The school day at almost every school is divided into three school blocks of about 90 minutes or six lessons of 45 minutes each.

By years five and six – ages nine and ten – children can be more difficult to work with. Visiting a classroom of 35 ten year olds can be tough going some days! However, they can be very rewarding because they are able to do more activities such as accessing the Internet, writing stories, reading and comprehending information and they still love to colour and draw. They love

to complete word search puzzles. This group of children can also help out with a school-wide recycling programme. They can collect bins of paper from other classrooms and generally take the lead in environmental programmes. You can also talk to them using some adult language and concepts.

Intermediate students require a higher degree of energy and skill when visiting the classroom. The year seven and eight children can be hard work if you are not prepared to deal with some oppositional behaviour. While the classroom visit is usually kept to about 45 minutes, some Intermediate schools operate in one-hour time blocks and you may need to fit into this system. An hour can be a long time to talk about one subject so it is a good idea to break up the time with assorted activities. Children at this age enjoy workbooks and they like to read and research information. If the visit is going to involve some worksheets, it is a good idea to have handouts that they can read to find the information. Tasks need to be concrete and pitched at the right level. Get this wrong and students may become bored or begin talking if an activity is too difficult. Filling in the blanks or keeping answers to short paragraphs of two or three sentences can assist with control in the classroom. At this level, the classroom teacher will set the tone - a good teacher can promote great discussion and an ineffective one may encourage unruly behaviour.

Waste minimisation programmes do not generally target high school students. Curriculum requirements are far more stringent at this level and students can be far less receptive to the “save the planet” message at this age. Most research suggests that environmental education is ineffective after age 12 because children become less interested in saving the planet and more interested in issues such as clothing, music, money, junk food and sex. The New Zealand Association for Environmental Education conducted a survey that supports the results of other international studies (2). Who has time to save the planet when everyone is meeting at the mall or the McDonalds?

That said, EERST has introduced successful recycling and resource recovery programmes into high schools over the years. However, this did not involve classroom visits and was generally the result of an inquiry from a keen teacher, wanting to put recycling programmes into the school. In most cases, an EERST educator simply helped the school develop a collection and sorting system in classrooms and administration areas and taught the caretaker or cleaners how to manage the new system.

Working with the pre-teen group is ideal. You can have a considerable influence on them if your programme is slick, fun and utilises some well-researched techniques such as Community Based Social Marketing, developed by Dr Doug Mckenzie-Mohr.

Community Based Social Marketing and Schools

Dr. Mackenzie-Mohr is an environmental psychologist who specialises in designing programmes to promote sustainable behaviour. He is a professor of social psychology at St. Thomas University in Canada and has made several trips to New Zealand to attend speaking engagements and workshops in recent years (thanks to The Waste Management Institute of New Zealand). In his years as a university professor, Dr Mackenzie-Mohr has conducted a mountain of research -

much of it is available at www.CBSM.com - that can be very useful to those of us who want to help people change their behaviour and adopt more sustainable practices. A school education programme should be designed with that in mind. CBSM is an alternative to conventional marketing techniques and draws heavily on research in social psychology. The concept's popularity stems from a growing understanding that while conventional social marketing, with its heavy reliance on media advertising, is limited in its ability to foster behaviour change (1). Creating awareness about sustainability does not change behaviour. Finding out why people don't engage in more sustainable behaviour patterns, and identifying the barriers that stop them from participation in this activity, is a key to CBSM. Using this information, EERST has been able to design a waste reduction programme that operates in 83 schools. The programme is designed to capture about 80% of each school's waste for recycling in an easy to use method.

Paper for Trees

In the year 2000, the EERST trust started a programme called "Paper for Trees". It became apparent, after visiting several schools in the Bay of Plenty, that almost all schools were either dumping most of their paper and cardboard into their rubbish skip or burning it in the school incinerator. I remember one school in particular, that had a real affinity with their waste incinerator. I watched the school caretaker spend two hours burning boxes and other school paper waste when he could easily have driven the short distance to the local transfer station and recycled the entire load of paper and cardboard boxes for free. Watching this type of behaviour as well as other wasteful activities happen made us think about designing a more environmentally sound way for schools to sort and dispose of their waste materials. With a simple waste audit we were able to discover that about 70%- 80% of a school's waste is paper and cardboard. Couriers seem to arrive daily at schools with cardboard boxes of materials. Most newspapers have schools linked into something called "Newspapers In Education", which brings weekly bundles of the local newspaper into the school. Teachers copy resources from the Internet or their school resource room, so the photocopier in most schools is churning out ream after ream of paper at a rate that seems to increase every year. Having a text book for each subject is ancient history. These days, children are given photocopied sheets of paper for almost everything.

So, EERST started looking for money or some sort of grant to buy thousands of plastic 40 litre hobby bins for schools. The idea was to get one standard green box into every classroom, library, administration area, staff room or any place in the school that has paper waste. With initial funding from the Zero Waste New Zealand Trust, we were able to launch the programme in about 40 schools. The next step involved meeting with local recycling operator Allbrite to gain approval for the collection of paper and cardboard. Once we had the bins and a reliable collection service in place, we launched the programme one school at a time.

We began by talking with the school principal and teachers during their morning tea break. This is probably the best time of day to meet with the teaching staff. The lunch break is much more interrupted as teachers are usually either running around working or trying to relax and eat their lunch in peace. We brought green bins and "cardboard and paper recycling" posters to attach to each bin. We also brought along woollucks and explained that the contents of the green bins

should be dumped into the woolsacks, which would in turn be emptied by a recycling company each week. As an incentive, EERST promised to donate one native tree for every four woolsacks the school filled.

The next step involved finding thousands of native trees to give to the schools. The regional council, Environment Bay of Plenty and Tauranga based furniture manufacturer Design Mobil came to our rescue. The regional council has a contestable fund and we were able to stretch our grant over a three-year period. Design Mobil has a corporate policy of planting a native tree for each bedroom set they sell, so they give away thousands of native trees each year. In 2004, EERST gave about 1500 of these trees to schools who, together, recycled about 240 tonnes of paper and cardboard. Given that only a couple of schools were recycling prior to the introduction of "Paper for Trees", growth has been tremendous. Now, the programme has extended from the Tauranga City Council region into Western Bay District Council and the Whakatane District Council areas. Rotorua Energy Charitable Trust and Rotorua District Council are assisting with trials in schools in their area and there are now seven schools participating. Costs associated with purchasing classroom recycling bins have been offset by grants from organisations like The Perry Foundation and The Green Thistle Sporting Trust.

Worms in Schools

EERST has donated about 40 worm bins to schools, in an attempt to reduce the amount of organic waste going to landfills. This project also gives schools a chance to work toward a zero waste goal by sorting out another waste stream and to learn about worm composting. The funding for this project came from Environment Bay of Plenty, through their environmental enhancement fund. The worm bin trials have met with mixed results when compared with the paper and cardboard recycling programmes. Some have progressed extremely well but many have not met their potential. We suspect problems stem from the fact that someone at each school needs to monitor the worms and the composting process. We continue to work with schools to encourage worm bin or compost bin usage but find it more difficult than paper and cardboard recycling due to the greater number of variables involved with food and organic waste. Contamination is a common problem, where plastic food wrap and other non-organic items are mixed with the food scraps. Monitoring the amount of organic waste going into the worm bins has also caused some problems as the bins can fill quickly and schools then resort to using rubbish bins or they may have difficulty getting the correct carbon to nitrogen ratio needed for the worm bins. School worm bins can also be problems with fruit flies, maggots or the occasional rat. So, it is certainly not as straight forward as paper and cardboard recycling.

Any school seeking a worm bin should first be able to demonstrate an ability and willingness to solve potential problems and they need to have teacher or caretaker who will take responsibility for the project. Rural schools seem to be able to separate organic waste more successfully than urban schools because a teacher, caretaker or parent will sometimes take the food waste home with them and feed the scraps to their own pigs or chooks. Thus eliminating any issues associated with composting the organic waste on the school grounds.

School Incinerators

Zero Emissions in schools is another EERST project that started in 2003, offering one-off grants to schools that agreed to permanently remove their incinerator. The average grant of \$250 was handed out following removal of the old school incinerator. Schools participating in this programme were mostly urban schools that had access to a reliable collection service. Assistance was again given from Environment Bay of Plenty for this project. Some of the rural schools still like the idea of burning paper waste as it still appears to be accepted practice in some areas where they have fewer options for resource recovery. Only a few urban schools continue to use their incinerator and many have stopped this practice years ago. Incinerators are not included in building plans in new schools. In the past year, we have facilitated the removal of six incinerators from schools and we continue to work with the few remaining schools that use this method of waste disposal. Rural schools face the ongoing problem of either finding a company willing to collect the paper or a volunteer who will take it to the closest recycling centre. Most rural schools do not have access to a recycling pick-up service and the nearest transfer station may be 10 or 20 km away. However, almost all have access to a waste contractor to pick up rubbish. Once again, leaving the task up to the school to transport all of their recycling has had mixed results. Often, a caretaker or parent is given the task of dropping paper and cardboard at the recycling centre each term or about four times a year. A small rural school of around 100 students would fill four or five wooolsacks with paper and cardboard in a 10-week school term. EERST has offered to assist these schools with bins, bags and logistical support, asking only that a volunteer transport paper to the recycling centre, but many schools have opted out of the programme as it becomes one more job that someone has to do. The lack of services for rural schools has proved a major barrier and although many schools have stopped burning waste and decided to send it to landfill, they still have a difficult time recycling.

Zero Waste School Programme

In the Bay of Plenty, EERST trustees teach the zero waste school programme on contract to Tauranga District Council, Western Bay District Council and Whakatane District Council. The programme, launched several years ago, has grown to include more than 70 schools. Within a school, each class generally receives four 40-minute lessons in a week. This means each child involved in the programme gets more than two and a half hours of work and instruction on waste reduction and recycling in any given year. Each child receives a homework sheet to complete with parental assistance and they may also complete a workbook, poster or other project. By age 12, children have been engaged in years of consistent messages and activities related to reducing waste at school and home. Homework sheets can be a great way to get parents and the wider community involved in the activities we are trying to promote, such as reducing, reusing, recycling and composting. Having parents assist children with a home waste audit or sign a homework assignment, is also another way to gain commitment to reduction of waste generated in the household.

Community based social marketing strategies have been integrated into the programme. Some of the homework sheets are designed to get the parents to check the bottom of plastic containers and learn what the identification code means and to actually write down the products that can be

recycled in their community. Children bring home a list of items that can be put into the recycling bin as a prompt or reminder for other family members. Often, the only thing stopping people from recycling is that they simply do not know what they can put into the recycling bin. This is especially true with plastics given the confusingly large range of plastic containers and packaging. Many households were only recycling newspapers until they learned that all paper and cardboard could be put out for recycling.

In order to encourage backyard composting in the household, children create compost in a two litre plastic milk or fizzy drink container. They gather food scraps from home and learn to layer their miniature compost bins with a range of materials. Parents receive a handout that promotes composting as an easy waste disposal method and explains what can be composted and how to prevent smells. Other activities are used to promote alternative waste minimisation opportunities. All of the school resources and programmes are constantly updated as resource recovery or opportunities for reducing waste and recycling change in the community. The programme and teaching resources are meant to give specific skills to the children involved, rather than general information about environmental awareness. All of the teaching resources are updated and changed each year to keep pace with changes in the community and any changes with the way waste and recycling operators conduct their local collections.

We are developing new norms and values for the next generation.

Conclusion

It is apparent that some schools communities have dramatically changed their attitudes and behaviour toward waste and recycling. Some of these communities have successfully lobbied for kerbside recycling and many schools that previously dumped or burned waste now have successful recycling programmes. The first step in changing any behaviour is to understand there is a problem and then to do something about it. Like any values or norms in our society, minimising waste is a learned behaviour and someone needs to pass along these values or norms to the next generation and sometimes the current one as well.

Creating shiny new resources to send schools for waste and recycling programmes is not the answer. Teachers are already overloaded with work and school resource rooms are crammed with teaching resources. Any council wishing to embark on a public education programme to change waste and recycling behaviour could utilise a school education programme to deliver this message. Community-based social marketing techniques can substantially increase target behaviour for waste reduction, recycling or composting schemes. Personal contact with people is essential and programmes delivered at an individual level have proven to be far more effective than large scale marketing campaigns that raise awareness about conservation or sustainability issues. Programmes must be specific to each community and address local issues, like urban verses rural recycling programmes.

After years of visiting schools to talk with thousands of children, I still believe the message to reduce waste must continue year after year and that schools are an effective medium. We need to keep the message simple and we need to keep reinforcing the messages in the community. Most

importantly, we need services that allow people to participate in waste reduction programmes. Without a reliable collection service or convenient drop-off facilities, we will never be able to compete with the rubbish bin as a convenient and cheap way to dispose of our waste. Unless we make recycling the first option we will never begin to make a serious dent in the amount of waste going to landfills and New Zealand will never be a world leader in resource recovery and waste reduction programmes.

References

- (1) McKenzie-Mohr, Doug and Smith, William (1999). *Fostering Sustainable Behaviour*. New Society Publishers. Preface xi
- (2) Keown, Paul (2000). *New Zealand Association for Environmental Education*, p1, 2.