

# **Educating communities for sustainability: living smart in the City of Fremantle, Western Australia**

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## **Abstract**

With human activity as the cause of many local and global environmental problems, the sustainability of a city largely depends on the choices and actions of its population. If the vision of a sustainable city is to be achieved, it is imperative that the people of that city not only have a clear understanding of the concept of sustainability, but also demonstrate support and actively contribute to this vision. A joint initiative by the City of Fremantle, the Southern Metropolitan Regional Council, the Meeting Place Community Centre and Murdoch University in Western Australia, sought to increase the Fremantle community's contribution to sustainability through a new environmental education program.

Knowing that simply providing information is not enough to create behaviour change, the “*Living Smart*” program used a framework for environmental education (developed by the authors of this paper) that emphasised community development and included goal setting as a behaviour change technique. Evaluation showed that the framework used in the program was effective in increasing participants knowledge of sustainability issues and the number and frequency of positive environmental behaviours taken. By bringing together people that have similar interests and concerns, “*Living Smart*” has created a community of individuals who have increased their understanding of sustainability issues and are actively contributing to this vision through their own behaviour and their connection with the community.

*Keywords: sustainability, education, participation, community, goal setting.*

## **1 Introduction**

Environmental education has the potential to give communities an understanding of sustainability issues and show them how to contribute to sustainability



through their everyday activities. Environmental education programs to date have been largely unsuccessful in doing this [1,2,3]. Early environmental education programs were based on the assumption that increasing a person's awareness of environmental issues would improve their environmental attitudes, creating an appropriate behavioural response [4]. This meant the majority of environmental education programs have focused on simply providing information [3].

There are a number of reasons why this approach has failed to get people actively participating in sustainability. Firstly, simply providing information does not give people the skills or motivation to make the necessary changes for adopting a more sustainability lifestyle [5]. Secondly it assumes that one size fits all and that all people will respond to the information in the same way. Thirdly they tend to be singular in focus, concentrating on a single environmental topic and associated environmental benefits. Ecological systems are complex and require an integrated, holistic approach.

The Living Smart Program is a joint initiative by the City of Fremantle, The Meeting Place Community Centre, the Southern Metropolitan Regional Council and Murdoch University in Western Australia. It is a community environmental education project that aims to provide the community with the knowledge and skills necessary to improve the sustainability of their homes and community. The program consisted of a seven week workshop series run at the local community centre and covered a range of sustainability topics including; waste, energy, water, chemicals, gardens, transport, health, taking action and simple living. In developing the Living Smart program a new framework for environmental education was used. This new framework allowed Living Smart to directly address the shortcomings of past environmental education programs by taking a holistic approach to sustainability and lifestyle, using goal setting as a flexible behaviour change technique, which allows for differences between individuals, and incorporating elements of community development.

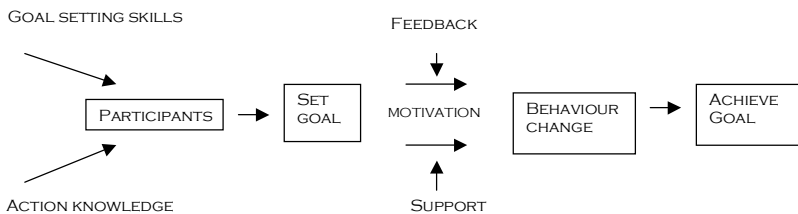


Figure 1: A framework for environmental education programs.

## 2 A new framework for environmental education

The framework for environmental education developed by the authors, provides participants with both goal setting skills and action knowledge [6]. Participants set goals to change their behaviour while continued support and feedback is given to encourage achievement of the goals and to develop a sense of

community amongst the group. The components of this framework are described in detail below.

### **2.1 Action knowledge**

Personal communication by a presenter and written communication in the form of an information booklet was used to deliver action knowledge to participants. The “action knowledge” or information component, delivers specific environmental information, and information about positive actions. [7,8,9]. It includes positive messages about how to act, the benefits of the actions and reassurance that these actions will make a difference [10].

### **2.2 Goal setting skills**

Goal setting has been shown to be successful in a wide range of behaviour change programs. Setting goals for improving performance is one of the most robust and replicable findings in psychological literature [11]. Many people use goal setting in areas such as finances and careers, and believe that setting goals can be an effective way of changing their behaviour. However, many people do not know how to set goals effectively and have not used it to change their environmental behaviour. The Living Smart program devoted an entire workshop to teaching participants effective goal setting skills and emphasised the two most consistent findings in goal setting research, that specific goals and challenging goals lead to the best performance [11,12,13,14].

### **2.3 Setting the goals**

Within any environmental education program there are different levels of knowledge, ability and motivation amongst participants. The adaptability and openness of the goal setting process encourages each participant to change to the best of their ability by setting individual goals. The goal setting process includes three steps; assessing and evaluating, setting the goal and identifying motivations.

In small groups, participants assessed the information and action strategies they received and considered how they could apply this to their lifestyle (i.e. what actions could they take or what existing behaviours could they improve on). Participants set their own personal goal by writing an overall goal, with specific sub goals and deadlines. Each participant’s goal was different depending on what they were already doing, what they are able to do and their home and lifestyle characteristics. After the goal was written down, participants identified and wrote down their personal motivations or reasons for wanting to achieve the goal. Participants were encouraged to find as many reasons as they could. The more reasons or motivation they have for doing something, the more effort they are likely to put in.

### **2.4 Feedback and support**

It is important that feedback and support is given to participants while they are attempting to change their behaviour and achieve their goal. This can motivate



participants to work harder to achieve their goal, reassure them that they are making progress and show them how their efforts are making a difference [9]. In the Living Smart program, feedback was given by collecting all participants goals and making wall charts showing the goals set for each topic. This allowed participants to see what changes other participants were making and reaffirm that they are a group working together towards change. Support was given by the facilitator and by giving time for participants to talk to other participants and exchange information and personal experiences. This gave participants a source from which they can gain encouragement, ask questions and get ideas. Group discussion and information exchange was encouraged amongst participants to help develop group dynamics and a sense of community.

### 3 Evaluation methodology

In order to assess the effectiveness of the Living Smart program participants were sent pre and post intervention questionnaires. Questions covered demographics, opinions on goal-setting and scales used to assess knowledge, attitudes and behaviour. Pre and post questionnaires were compared to determine if any knowledge, attitude or behavioural changes had occurred as a result of the program. Participants was also asked to complete an extensive feedback form at the end of the program, which asked questions about participant satisfaction, effectiveness of the program, what could be improved and how they would like to remain involved in the program

Two control groups were used to compare whether changes in participants knowledge, attitudes and behaviours were a result of the program and not other internal or external factors. One group was recruited from an established environmental organisation. The second group was recruited by dropping letters in the local area. The community control group (comm group) answered the questionnaires and were also sent an information booklet containing the same environmental information (minus the goal setting) that the Living Smart group received. The environmental control group (envt group) simply completed the questionnaires.

All the data from the feedback form and the questionnaires were initially entered into excel and descriptive statistics were completed. Further analysis was conducted using the statistical package for the social sciences, SPSS. Differences between the groups were detected using independent sampled t-tests or one-way anova's. Differences before and after the intervention for all groups were detected using paired sampled t-tests. All tests were tested at a significant level  $p < 0.05$ .

### 4 Results

Two thirds of the participants said the program changed the way they think about the environment and lifestyle. 91% of participants said that what they had learnt in the program would influence them for a very long time or forever. Participants increased both their environmental knowledge score (fig 2) and their sustainable



behaviour score (fig 3). The community group, who received a booklet on sustainable living, increased their environmental knowledge score but did not increase their sustainable behaviour score. These changes were found to be statistically significant ( $p < 0.05$ ). The environment group, who did not receive any information, did not change on any of the scales.

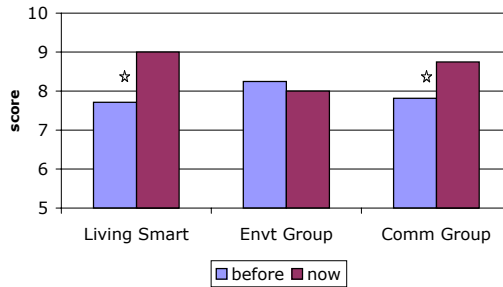


Figure 2: Change in environmental knowledge scores ☆ indicates a significant difference.

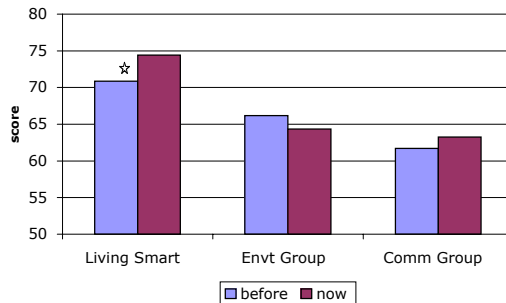


Figure 3: Change in environmental behaviour scores ☆ indicates a significant difference.

As a result of attending the program, 91% of participants felt more a part of the community, 95% increased their knowledge of community resources and services and 82% increased their sense of well-being. Participants highly valued being able to share their experiences and knowledge with other participants citing the group dynamics as one of the most positive aspects of the program.

*The fact that we were all encouraged to participate made it far more enjoyable and informative*



*The most positive thing about the program was group dynamics, positive people and exchange of ideas*

Three quarters of the participants had plans for further developing sustainability in their community. Immediate actions they said they could take were to talk to others and set a personal example. Participants also continued to meet for six months after the program was complete to continue to develop their understanding of sustainability issues and to discuss projects they could implement in the community. Over half of the participants also said they would be interested in helping expand the Living Smart program into the community. This included becoming a facilitator either as an individual or as a group, lending support at meetings, and helping to promote future programs. When participants told other people about the program, 45% of those people were very interested and 36% were interested.

## 5 Discussion

The Living Smart program was effective in increasing the number and frequency of participants sustainable behaviours. This increase in sustainable behaviours was not found in either of the control groups, despite one control group being provided with the same environmental information as the Living Smart group. This supports the argument that while the environmental information provided increases participants knowledge, it is not sufficient for creating behaviour change. The Living Smart group who participated in group workshops and goal setting were the only group to change their behaviour.

The Living Smart program has achieved what many environmental education programs have been unable to do, change participants daily behaviour. Participants were able to change their behaviour by setting goals. Goal setting gave participants the skills, commitment and motivation to take action and was an effective tool for behaviour change [6]. An even greater challenge for environmental education programs is to get individuals and communities to contribute to the wider vision of sustainability. This means not only making changes to their own daily behaviour but also setting an example for others and seeking to implement sustainability in the wider community.

The new framework provided opportunities for participants to discuss the information they had received and share their personal experiences and knowledge amongst the group. This draws participants into the program and communication becomes a dynamic flow between the participants and facilitator. Participants highly valued being able to share their experiences and knowledge with other participants, citing group dynamics as one of the most positive aspects of the program. The active participation and group dynamics enabled 91% of participants to feel more a part of the community. As a result participants felt their role was not only to change their own behaviour but also to influence others.



*It is really important it is not something that can be delayed and I think just being in this group, being around people, reinforcing that other people feel the same way that I do gives me the motivation to influence other people.*

*Now I probably feel more of a responsibility to collect more information but also to impart it.*

At the completion of the course many participants had ideas on how they could contribute to sustainability in the community. This included talking to others about sustainability issues and what they can do and by setting an example through their own lifestyle and actions. A third of participants also expressed interest in maintaining involvement in future Living Smart programs. This involvement ranged from actually running the course, to becoming a trained Living Smart facilitator, to providing support at meetings. This sense of community and commitment to the program is not only crucial to the participants experience in the program but has important implications for sustaining the program into the future.

When participants told other people about the program, 81% percent of those people were either interested or very interested. This word of mouth communication maintains interest in the program from the wider community and provides a source of new participants for future programs. Information received from friends and family is more likely to be listened to and believed, than any other type of media advertising [15]. Personal recommendations from past participants, is the most credible recommendation a program can have.

These graduates of the first program have provided a rich resource for the Living Smart program. The second Living Smart course is now being run with the help of these Living Smart graduates. A number of these participants are either acting as mentors to current participants, are training to become future Living Smart facilitators or are providing background support to the program. The participants who are training to become facilitators for the Living Smart course will run the course in their own community, in the future, allowing the program to expand from a grassroots level.

## **6 Conclusion**

In using the framework presented here to develop the Living Smart program, The City of Fremantle has been able to take that first step towards creating a community that actively participates in sustainability. Evaluation showed that the Living Smart participants increased the number and frequency of their sustainable behaviours as well as their environmental knowledge. In addition they are spreading the sustainability vision, setting an example, and playing an integral role in supporting and developing the Living Smart program for the future. It did this by providing participants with information, having them set goals to change their behaviour and by developing a sense of community amongst participants. Now these participants not only have a clear understanding



of the concept of sustainability but also actively contribute sustainability in their home and their community. This is an integral part of the City of Fremantle achieving its vision of a sustainable city.

## Acknowledgements

Acknowledgement is given to the partnership between the City of Fremantle, the Southern Metropolitan Regional Council, the Meeting Place Community Centre and Murdoch University, which enabled the creation of such an innovative and successful program.

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