# THE APPLIED BEHAVIOR CHANGE (ABC) FRAMEWORK: ENVIRONMENTAL APPLICATIONS

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## ABSTRACT

This paper describes the application of the Applied Behavior Change (ABC) Framework to environmental behavior change. The applications for environmental problem solving use environmental education and communication as the vehicle for change. The ABC Framework has been developed over 20 years of applied social marketing in the fields of health, nutrition and AIDS communication. Applications of these models in the environmental arena have an additional level of complication, because the benefits to be derived from most environmental behavior change are, at first glance, derived by the community as a whole rather than the individual making the change, thus providing less motivation for individual change. The described applications come from actual field applications over the last two and a half years in development settings with funding from USAID. This ABC Framework requires an understanding of the local system of community and individual attitudes, beliefs, and behaviors. It is meant to be practical, iterative, multi-leveled and requires continual monitoring and modification of inputs to address the dynamic nature of local individuals, communities and environmental problems.

## KEYWORDS

Environment; environmental education; communications; social marketing; behavior change.

## INTRODUCTION

As environmental problems make our society reconsider almost every practice of humankind, closing the knowledge-behavior gap becomes increasingly important. The model for designing programs to address behavior change presented here attempts to extract the best lessons learned from the behavioral sciences and apply them to the diverse problems of the environment. This framework consists of three components: 1) program development - a sequential process for organizing and conducting large scale behavioral change interventions; 2) social marketing - a strategic management system for decision making; and 3) defining behavioral constellations - a process of assessing and prioritizing behavioral targets to monitor and evaluate.

Reference is made to the basic works in communication planning, social marketing and behavioral science of Bandura (1986), Fishbein (1975), Fishbein and Middlestadt (1989), Kotler and Roberto (1989), Manoff (1985) and Rosenstock et al (1988). This framework is not similar to the more recent corporate profit-focused environmental marketing approaches of Coddington (1993) or the corporate/sustainable development approaches of Panayotou (1993). The strategy for behavior change is rooted in the basic notion that knowledge does not cause behavior change as summarized in the early advertising profession by Haskins (1964) and more recently in the social

marketing literature by Rangan (1996). The application of this work into the environmental arena involves an extra dimension because the environment is, by its very nature, the science of "everything is connected to everything else science" and the benefits of individual behavior change are usually seen as coming to the community at large and not directly to the individual making the change.

The ABC Framework grew out of nearly a two decade relationship between the United States Agency for International Development (USAID) and the Academy for Educational Development (AED) to apply the best work in behavioral science to real development situations in developing countries as documented in Graeff et al (1993). The ABC Framework has three critical components: Program Development, Social Marketing and Defining Behavioral Constellations. This framework allows professionals to design, implement, monitor, adjust and evaluate interventions.

**The Applied Behavioral Change (ABC) Framework**

The ABC Framework is intended to be a practical tool for real application for environmental professionals to design, develop, and evaluate interventions leading to large- scale behavioral change. It is meant to answer three environmental questions for the environmental professional:

What do I do first?
What do I manage and manipulate at each stage to ensure a comprehensive program?
What milestones do I monitor?

**Participatory Program Development**

The participatory program development component is a process for sequencing the growth of effective broad-scale interventions designed to influence behavior change. Participatory program development is built on the premise that people must shape and control their own transformation and that participatory processes best achieve this goal. The process is cyclical, constantly reframing interventions to correct mistakes or to address changes in the target audience. The process has been divided into stages (Figure 1) by different authors. However, two basic characteristics are common to all the authors. First, all behavior change processes are cyclical, turning back on themselves, constantly reframing the interventions to correct mistakes or take into consideration the changes in the target audiences. Second, all the systems intermingle research with action.
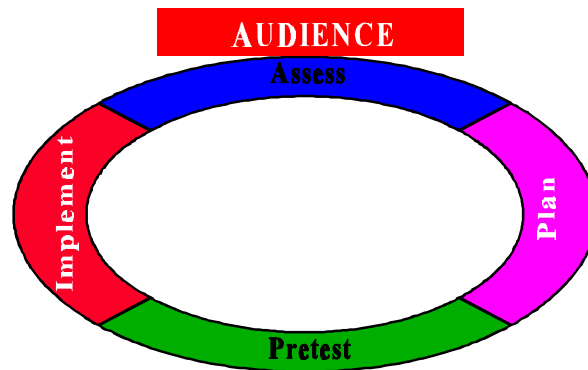
Figure 1. The Participatory Program Development Process

Description of the five step process:
 Step 1    Assess the problem: Conduct formative research in the target population on environmental behaviors, knowledge, attitudes and differences between those that exhibit the desired behavior and those that do not. This involves listening to the people and selecting the specific behaviors that will make a difference (Booth, 1996).
Step 2    Plan a strategic intervention program that addresses the needs of the target audience: messages, products, services, support and/or benefits that were identified as reasons individuals were conducting the "right" environmental behavior.

Step 3    Test the messages, tactics, products or materials selected as a part of the environmental education or communications campaign.

Step 4    Implement the intervention through environmentally appropriate channels.

Step 5    Transform the assessment based on actual observation and feedback from the target population.

An example of the need for applying this participatory project development process comes from the City of Quito, Ecuador, which had implemented a recycling program.    After a few months, participation in the recycling program declined dramatically.  GreenCOM (USAID's Environmental Education and Communications Project) came in and conducted qualitative and quantitative research to determine the reason for the loss of participation.  GreenCOM found there were gender differences in the reasons for participation reduction.  The missing step had been that of listening to the people or the participatory element of this implementation.  Because the needs of the local people had not been accounted for by the program implementation, participation was short lived.  From the marketing perspective, the product-market fit was off.  The target-adopter group did not perceive the value of the program.  The City will now need to redesign the program and pretest the design and the communication campaign to assure it speaks to the target audiences - both men and women.

**Social Marketing**

Social Marketing is a management system based on the concept that people will change behavior in exchange for benefits. Program managers must identify the benefits for the specific audience and the precise behaviors in order for this exchange to take place.  This system will fail if the community and/or individuals do not help determine the benefits and behaviors that are most important and establish the link between them.  Social marketing has four key domains of influence - the four Ps: product, place, price and promotion (figure 2).
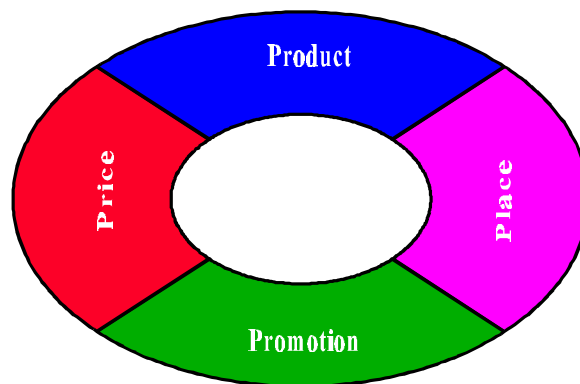
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Figure 2. The Social Marketing Domains

These four domains are:

Product:     The program decisions associated with selecting and shaping the idea, commodity, behavior or service. (Examples: the recycling service mentioned above; the newspaper inserts and participatory method teaching units mentioned below.)

Place:       The system which products flow to the users or quality of service offered. (Examples: at the home from the recycling mentioned above; the Sunday newspaper and in the school mentioned below.)

Price:       All the barriers a person must overcome before accepting the proposed social product. (Examples: extra work in separating recyclables mentioned above; acquiring the Sunday newspaper and social risk and work to learn participatory teaching methods mentioned below.)

Promotion:   The decisions about messages and their vehicle: advertising, public relations, consumer promotions, user education, counseling, community organization, or interpersonal support.

GreenCOM has worked with a large circulation newspaper *El Diario de Hoy* in El Salvador in a public/private partnership to get environmental education materials to teachers and students. The product here is a monthly Sunday supplement called *El Guanaquin,* a full color supplement targeted for children. This weekly supplement features an environmental topic once a month. Education materials are scarce in El Salvador, so this supplement in a well-circulated newspaper (110,000) provides access to most of the target population. The price domain or barrier is addressed by the target population already receiving the newspaper or at a very marginal cost. The implementation has been to provide the environmental information to the newspaper for preparation and printing. Given that the insert already existed, only content problems needed to be overcome. GreenCOM recently evaluated the impact of the supplement. Eighty percent of the teachers in the circulation area of the newspaper had made use of *El Guanaquin* in the classroom. And 79 percent of the children had seen it in their home. The research demonstrated that if the timing of the topics was correlated to the curriculum, it would even be more helpful. This is now underway.

**Behavior Constellations: Speaking to the Knowledge-Behavior Gap**

People do not always do what they know they should do (Rangan et al 1996). Behavioral science can help us close that gap. Specific factors can that keep this gap from closing are often called determinants of behavior by behavioral scientists. Attitudes (*My sorting of my trash will make no difference to the planet.*); spatial barriers (*I can't find the recycling container.*); knowledge (*I don't know if I can recycle this plastic container or not.*) and/or consequences (*When I put recyclables in the recycling program then I don't get the money from them.*) all fall into this determinant of behavior classification. The ABC Framework has selected and organized a subset of determinants into two domains. The first domain, or checklist of determinants, are the internal/cognitive factors (for example: knowledge, attitudes and beliefs) and the second are external/structural factors (for example, access to services, cost, policy and prejudices). The cognitive determinants were largely

drawn from three important theories: the Health Belief Model ( Rosenstock , 1988), the Theory of Reasoned Action (Fishbein and Ajzen, 1975), and the Cognitive Social Learning Theory (Bandura , 1986). (figure 3).
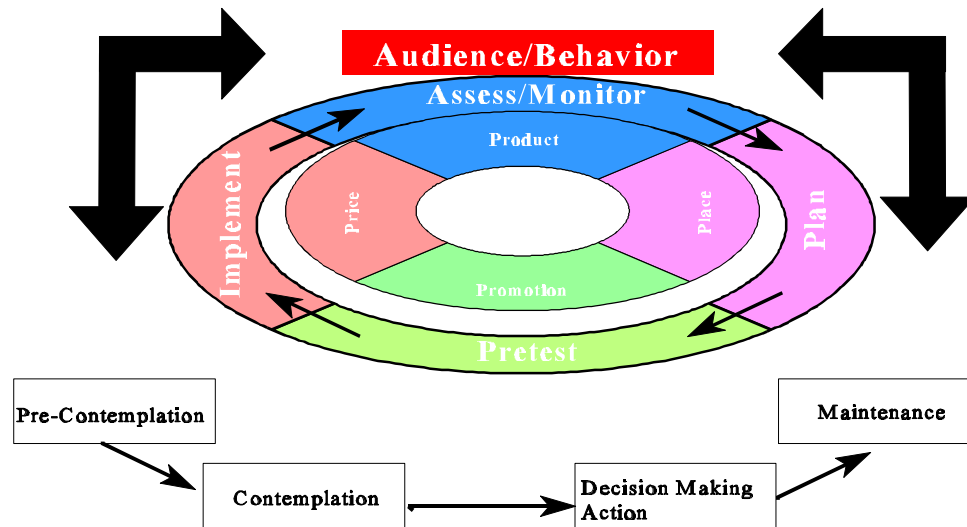
Figure 3.  The Applied Behavior Change (ABC) Framework

The internal factors are: Specific Knowledge, Perceived Risks, Perceived Social Norms, Perceived Consequences and Self-Efficacy.  The external factors are: Social Economic Status, Epidemiology, Access to Service, Policy and Cultural Norms.  The ABC Framework has helped to select those factors that have consistently proved to be important in working with different populations across a set of varied environmental issues, diverse cultures, and socio-economic settings. Collectively these can be thought of as Pre-Contemplation. Contemplation, Decision Making Action, and Maintenance.

GreenCOM has worked in Jordan with teachers who lead "Eco-Clubs" in secondary schools on developing new curriculum materials on water conservation.  The materials were developed by a local organization, the Royal Society for the Conservation of Nature (RSCN).  In order to change the behavior of youths and their families, GreenCOM introduced participatory teaching methods (discussion, experiments) to teachers who had not used them before.  This served to heighten the interest in actual water conservation methods, which in turn led to more actual behavior change - participating students, both boys and girls, talked more with their families about changing their actual habits in the home, than did students also exposed to water conservation materials in Eco-Clubs, but without the participatory units developed by GreenCOM and RSCN.  GreenCOM had assessed the target population with formative research, made a plan, pre-tested with teachers, implemented the plan with RSCN, assisted RSCN in developing the workshops for teachers (product), made them easily available for Eco-Club teachers at no cost, and promoted participation in the workshops.  The workshops addressed as many of the internal and external behavioral determinants as possible. During this intervention, GreenCOM provided RSCN with the technology and methods to sustainably implement future iterations of this process.

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The ABC Framework has proven to be comprehensive, practical and flexible. The framework integrates practical field experience with the latest theories in social science. It does not pretend all factors are equally important, but selects targets of opportunity based on experience, well proven theory and input from the targeted populations. The most important lesson we have learned is that most people have excellent reasons for doing even those things which seem most self-destructive to outsiders. Environmental Education must give people the cognitive tools to judge what is environmentally sound. At the same time, environmental social marketing must give people the behavioral experience that environmental change is not only possible, but can be positive and beneficial to them, today and for the generations to come.

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