

Chapter 10

Design of the Education Campaign: Creating a Motivated, Environmentally Concerned Public through Improved Scientific Literacy

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ABSTRACT

“Educating the public” is a phrase heard often between scientists when it comes to creating a motivated, environmentally concerned public. Scientists often take on the role as educator to administer environmental education through campaigns (i.e., classroom events, workshops). A successful campaign is dependent on the careful framework of planning, implementation, and evaluation. Cognitive and social development theories, including knowledge of various learning types, are important in finding target audiences. Bloom’s Taxonomy assists educators in developing learning objectives by categorizing different levels of thinking. The Elaboration Likelihood Model of Persuasion uses two communication routes, central and peripheral, which are contingent to the cognitive abilities and motivation of the audience. The success of campaigns is not immediate, thus requiring different modes of evaluation. Challenges such as campaign longevity, changing population demographics, technology, and the “doom and gloom” mentality of audiences should be addressed to ensure campaign success.

INTRODUCTION

Education is the most powerful weapon which you can use to change the world.-Nelson Mandela, 2003

As a scientist, *educating the public* is a phrase heard quite often. Perhaps at public hearings, committee meetings, conferences, or everyday conversation with colleagues. Scientists will usually agree this is necessary in order to create a more sustainable environment in the face of current issues such as climate

DOI: 10.4018/978-1-4666-9559-7.ch010

change, sea level rise, overfishing, and increasing human population. However, *educating the public* is often attached to some criticism among scientists and even the public itself (Mooney, 2010).

Scientists argue that the public should be able to think scientifically about an issue so they can make informed decisions about it. The big question here is whether scientists can motivate the public to become more scientifically literate and environmentally conscious. Mooney (2010) reported the findings of a 2009 study that surveyed both the public and scientists about their views on the scientific community. Results revealed that the public was overall positive about the scientific community while scientists were negative towards the public by describing them as uninformed and the media as imprudent. While not all scientists think of the public and media this way, there may be some logical reasoning behind the surveyed results. Scientists cannot guarantee that the public will agree with their findings or reasoning. There is also the possibility that the public does not understand what the scientists are saying as a result of improper communication. Each public member has his/her own ideologies or political standpoints, which create dissenting opinions about the presented science.

The nature of media can be harmful to both the public and scientists, not to mention the environmental issue at hand. The media may present a one-sided view, or not accurately report the given facts for the sake of television ratings or number of views. A recent example was in 2012 when North Carolina lawmakers rejected sea level rise predictions along the North Carolina coasts. A panel of scientists on the Coastal Resources Commission reported that the North Carolina coastline could see a rise of 39 inches by the year 2100 based on multiple studies. A coastal economic group called NC-20 dubbed the result as *pseudoscience* by arguing that North Carolina only saw an eight-inch increase in sea level rise over the past 100 years and the prediction does not match historic trends. NC-20 also argued that scientists' sea level rise predictions would escalate insurance costs plus hurt the economy by not being able to develop on coastal property. After some debate, North Carolina House Bill 819 was passed and a moratorium was enacted so as not to report findings on sea level rise until scientists can provide more accurate predictions rather than basing it off models. This decision to ban sea level rise in North Carolina also gained media coverage. Specifically, *The Colbert Report*, where comedian-host Stephen Colbert jokingly mocked North Carolina about its decision. This media example provided a glimpse of poor communication between scientists and the public.

While not all environmental issues are as controversial as sea level rise, scientists should continue their efforts to educate the public in a way that gets them more motivated about the environment through improved scientific literacy. The question that remains is, what can scientists do to accomplish this when they take on the role as educator?

This chapter will introduce the importance of environmental education and discuss different strategies for developing education campaigns that is applicable towards any environmental topic such as water-related issues. Throughout the chapter, words such as *educator* and *audience* will be used frequently. Here, educators indicate classroom teachers, instructors, or the individuals that design and/or lead the campaign. The audience refers to students, learners, volunteers, or workshop participants. In addition, some of the references cited throughout the chapter are decades old but considered landmark studies that remain applicable to education sciences.

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