

Informal Education of Energy Conservation: Theory, Promotion, and Policy Implication

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ABSTRACT

Since there is about seventy percent of population in Taiwan acquiring knowledge of energy conservation through informal education, the non-school based energy education is growing more important. In this paper a brief survey of informal education of energy conservation in Taiwan is conducted. First of all, a variety of instructional scenarios available for informal education are reviewed, including museums, communities, and many others. Secondly, the strategies to promote informal education, such as TV ads, print media advertising, network communication, speaking tour, leaflet distribution, workshop, demonstrations, eco-tour, community colleges, and prize events, are discussed based on cost-benefit analysis. Furthermore, the influence of each strategy on the population's knowledge of energy conservation is estimated statistically. The effectiveness of different types of informal education is compared based on their economic cost, learning outcome, and acceptance rate. As a conclusion, a suggestion to improve the energy education policy is proposed. This study has been devoted to finding the curriculum theories and strategies applicable in designing curriculum for informal education, and to providing a theoretical basis on which environmental protection education curriculum can be developed.

Keywords: Cost-Effectiveness Analysis, Energy Conservation, Environmental Protection, Informal Education, Policy Analysis

INTRODUCTION

Problem Identification-What Do We Need in Informal Education?

Energy conservation is an important issue of nowadays. However, due to the complexity of

information society, it is difficult to design an effective educational system to transfer knowledge to the public. Actually, symbolic interaction is the way that scientists communicate with the public. How to use scientific theories via symbolic interaction to interpret informal education process may contribute to designing a more efficient system of education.

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The efficiency and effectiveness of informal education is another important concern. With limited time, space, and budget, what is the best choice among various education methods? How can we design an informal education system to achieve a best efficiency? Is the way chosen for education effective? A systematical design of informal education is indeed necessary. Can we shape a new culture of energy conservation and carbon reduction in a new society by means of information technology and communication? Finally, what is the rationale based on which we can develop a theory to equip us to achieve the purposes?

Curriculum design is another critical issue in informal education, as it is different in practice from that in formal education. Sociology, journalism, and communication should be integral parts of the coursework. The goal of the curriculum design should be aimed at making energy conservation and carbon reduction a habit. Furthermore, some constituents required for building a curriculum should be considered, including philosophy, psychology, development process, and design criteria.

Informal education is a kind of popular science education, which may lead to a dialog between scientists and the public. The theories derived from journalism and communication can be used to explain the effect and the process of mass media.

At last, the role of information technology cannot be neglected. By invoking telecommunication technology, a better curriculum design is expected to be implemented in informal education. The public habits are susceptible to public opinions, economy and technologies, and social structure changes with time. This is mainly due to technological innovation and dissemination. For example, the knowledge of energy conservation can be distributed through mass media. Under the influence of globalization, sociologists believe that this change will result in social change overtime, and become increasingly homogeneous. Therefore, we have to face the influence of globalization on informal education of energy conservation.

A VIEWPOINT FROM GREEN TECHNOLOGY AND GLOBALIZATION

The discussion of energy education can be started from the globalization of green technology. The issues of energy conservation and carbon reduction arise from globalization. Globalization represents that our life is mutually connected on a global scale. Economy, politics, and culture are closely interdependent among countries. There two questions that have been often asked recently: How does it change our life? What is the impact of globalization? For example, global warming leads to a worldwide common consensus on earth protection because no one of the international community can escape.

Localization is another trend that should be concerned while globalization is discussed. Due to globalization, all kinds of commercial goods, behavior patterns like consumption and even culture and values tend to uniformity. To avoid the vanishment of individual characteristics in globalization has made localization gain widespread attention.

Glocalization is the combination of globalization and localization. Glocalization means that the individuals, groups, companies, organizations, units, and community are willing and able to "think globally, act locally." The term reflects the essence of informal education for energy conservation, which is an international issue originating from a local community. This term also refers to thinking about the world by seeing the whole picture instead of the narrowed one. Glocalization provide us new directions to think about informal education of energy conservation. First of all, the problem is on a global scale. The second is that the technology used is on a global or regional scale. For instance, the curriculum offered to a community is developed from a global view without ignoring the local involvement. On the other hand, the curriculum integrated with electronic communication technologies provides real-time communication that engages local users in global interactive learning.

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