A PROGRAM FOR BUILDING ENERGY AND ENVIRONMENT AWARENESS FOR GRADE-5 STUDENTS

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Abstract – Energy and environment are the two sides of a coin. Turning on a light bulb or indeed anything that consumes electricity at the user end, burns coal or natural gas at the power plant on the other end. Major components of research directed towards saving energy and the environment are production of green energy, reduction of system power losses, improvement of technology for reduced pollution, etc. Relatively less attention is being given to reducing the wastage of electricity, which is one of the major components. Reduction of wasted electricity would be completely user-implemented, with the driving forces being enforcement, encouragement and building awareness. Among these three, the most effective one is building awareness, in other words making a habit or culture of saving energy.

In this study, an effective, fun activity for building energy and environment awareness is developed and tested for grade 5 students. This program does not ignore the adults but adopts an integrated approach where parents, teachers and students work together where the young students get the leadership role. The students participating in this program do two weeks of various home and school activities along with their parents and teachers. The program has been carefully designed so that it matches with the existing curriculum at the appropriate level. The science curriculum across Canada was extensively reviewed. Each student is required to do mathematical analysis, which is also at the appropriate level in the curriculum. As part of this program two teaching modules have been developed: one for the students and the other to be presented to their parents. The teaching module for the students includes the following key components: energy and its importance, the environment and its importance, making a link between energy and environment, various means of electricity generation, problems with fossil fuels, global warming and its effect, how kids can contribute, and energy---saving tips. All the technical terms and facts are carefully designed not only to keep them at the appropriate level but also to make the activity interesting to the students by expressing facts in ways that suit their style of learning. Even the PowerPoint slides, background colors, images and animations are carefully chosen. Monetary savings were translated in terms of kids' favorite toys or games instead of expressing them in dollars. In developing this program the authors consulted with elementary school teachers. Besides learning various aspects of energy and the environment, the biggest outcome would be a permanent change in habits of saving energy and caring for the environment. A test result shows a significant improvement in students who participated in this program.