

Useful Lessons from the Success of Physics Outreach in Jamaica

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Abstract : Physics Outreach in Jamaica has nearly tripled the number of students doing Introductory Calculus-based Physics at the University of the West Indies (UWI, Mona) within 5 years, and thus has shown the importance of Physics Teaching & Learning in Informal Settings. In 1899, the first president of the American Physical Society called Physics, "the science above all sciences." Sure enough, exactly one hundred years later, Time magazine proclaims Albert Einstein, "Person of the Century." Unfortunately, Physics seems to be losing that glow in this century. Many countries, big and small, are finding it difficult to attract bright young minds to pursue Physics. At UWI, Mona, the number of students in first year Physics dropped to an all-time low of 81 in 2006, from more than 200 in the nineteen eighties, spelling disaster for the Physics Department! The author of this paper launched an aggressive Physics Outreach that same year, aimed at conveying to the students and the general public the following messages: i) Physics is an exciting intellectual enterprise, full of fun and delight. ii) Physics is very helpful in understanding how things like TV, CD player, car, computer, X-ray, CT scan, MRI, etc. work. iii) The critical and analytical thinking developed in the study of Physics is of inestimable value in almost any field. iv) Physics is the core subject for Science and Technology, and hence of national development. Science Literacy is a 'must' for any nation in the 21st century. Hence, the Physics Outreach aims at reaching out to every person, through every possible means. The Outreach work is split into the following target groups: i) Universities, ii) High Schools iii) Middle Schools, iv) Primary Schools, v) General Public, and vi) Physics teachers in High Schools. The programmes, tools and best practices are adjusted to suit each target group. The feedback from each group is highly positive. e.g. In February 2014, the author conducted in 3 Primary Schools the Interactive Show on 'Science Is Fun' to stimulate 290 students' interest in Science - with lively and interesting demonstrations and experiments in a highly interactive way, using dramatization, story-telling and dancing. The feedback: 47% found the Show 'Exciting' and 51% found it 'Interesting' - totaling an impressive 98%. When asked to describe the Show in their own words, the leading 4 responses were: 'Fun' (26%), 'Interesting' (20%), 'Exciting' (14%) and 'Educational' (10%) - confirming that 'fun' & 'education' can go together. The success of Physics Outreach in Jamaica verifies the following words of Chodos, Associate Executive Officer of the American Physical Society: "If we could get members to go to K-12 schools and levitate a magnet or something, we really think these efforts would bring great rewards."

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