

International Year of Physics

Rawatee Maharaj-Sharma

The United Nations General Assembly has declared 2005 as the International Year of Physics. Among the reasons provided for this decision in the declaration document are (a) the recognition that “physics provides a significant basis for the development of the understanding of nature,” (b) the observation that “physics and its applications are the basis of many of today’s technological advances,” and (c) the conviction that “education in physics provides men and women with the tools to build the scientific infrastructure essential for development.”

As part of the celebrations, countries all over the world have planned year-round activities involving universities, commercial organizations, and schools, as well as teachers and students at all levels of the education system. These activities, which include public lectures, physics exhibitions and displays, science festivals, and experimental showcases, represent an attempt by countries to popularize contemporary physics and to sensitize their respective populations about the significant role that physics plays in everyday life.

Because an emphasis on youth involvement is a primary focus of the celebrations, competitions from a variety of categories, including essay writing, poetry and stories, posters, novel experiments, and physics and the arts, have been organized to encourage student participation by providing them with opportunities to display their knowledge, skills, and understandings of physics, as well as to explore their abilities in applying physics to everyday situations. Teachers too are encouraged to get involved by participating in the “Teaching Physics” category, where they have an opportunity to demonstrate their skills in designing activities and instructional material for teaching young children about physics laws, principles, or discoveries. More information can be obtained from the official World Year of Physics 2005 website at <<http://www.WYP2005.org/>>

Trinidad and Tobago is among the celebrating countries, and although the official national launch is still pending, many teachers and students have already begun preparations for activities and events in their schools and communities. Several students have also expressed genuine interest in participating in the various competition categories.

Physics has often been labelled as a difficult, abstract, and overly mathematical subject, and has not enjoyed the same popularity as the other broad sciences—biology and chemistry. Therefore, it is not surprising that a world-wide effort is being made to dispel these labels and to demystify this otherwise remarkable and

exciting science. Many teachers have expressed concerns that students are not enthusiastic about pursuing physics, and that they question the relevance and usefulness of the subject. It would seem that students are unaware of the wonders of this subject and the personal benefits that physics understandings can have on their daily lives. It might be that teachers find it easy to proclaim the importance of subjects like mathematics, language, and history but that many of them do not, or perhaps cannot, appreciate the benefits of physics because they themselves are believers of the myths associated with the subject.

My own experiences have revealed that many students are disappointed with the way the subject is taught—rigid and regimented—fraught with definitions, formulae, and notes. By its very nature, physics involves activities like building, bending, measuring, and manipulating, all of which suggest that physics learning should occur through active participation rather than passive reception. If this is true, then the learning experiences to which students are exposed have to focus heavily on the hands-on approach—a focus that students say is a very uncommon one in their physics lessons!

Perhaps the observance of the International Year of Physics will help all concerned to explore ways of shifting the physics teaching/learning focus into a more practical-oriented dimension.

School of Education, UWI, St. Augustine