Aiming at a Breakthrough

Current Status of the Division of Education in Applied Physics, and Outlook for the Future



Yoshiaki NAKANO

Chief, Division of Education in Applied Physics The Japan Society of Applied Physics

Japan's growth in the 21st Century will depend on the development of new sciences and technologies, and on the creation of new

industry, and the education of manpower is essential to achieving both of these goals. In recent years, however, there has been a tendency for young people to drift away from the sciences or to develop a dislike for physics, and this, in addition to the decline in basic academic abilities, is a grave situation for Japan, which is aiming to be a leader in the creation of science and technology. With the growing importance of education for young people in the fields of science and technologies, companies and academic societies are expected to have a greater understanding of education, and to make greater contributions in this area.

The Japan Society of Applied Physics (JSAP), and the Division of Education in Applied Physics in particular, has long been involved in studies of educational activities related to science and technology. Through collaboration among its various Chapters and Educational Divisions, JSAP has undertaken science education activities for more than 10 years, receiving an excellent response from both inside and outside of the Society. Among these activities are the "Festival of Science in Daily Life" — an event comprising lectures and hands-on learning opportunities for mainly elementary and junior high school students — which has been held since 1995, and the "Workshop for Refreshing Science in the Classroom" which has been held since 1997. JSAP's educational activities have continued to expand, for example with "Education Symposiums" and "Open Lectures." The Division of Education in Applied Physics has been an active participant in all of JSAP's educational activities.

The JSAP Division of Education in Applied Physics was instituted in 1988 based on the Applied Physics Education Research Group, which was established in 1963, and so has been active for more than 40 years. In addition to the "Educational Symposiums" held during the spring and autumn national conventions, some of the main activities conducted by this Division are: the "Symposiums and research presentations related to physics education"; the "Workshop for Refreshing Science in the Classroom" held in the Kanto region (Tokyo and surrounding prefectures); the "Physics Education Symposium," which is held in collaboration with the Physical Society of Japan and the Physics Education Society of Japan; joint activities with six scientific and mathematical societies; and publication of the Division's Journal, "Applied Physics Education."

At the Workshop for Refreshing Science in the Classroom in the Kanto Region, information on science and technology is provided to teachers in elementary and junior high schools, along with hands-on learning about how fun and interesting science can be. At the same time, teachers and students learn together about the interesting and wondrous world of science, and about the "joy of thinking." In keeping with the "World Year of Physics," the main theme of this year's science classrooms is "What is Light? Enjoying wondrous experiments and experiences!" This was an excellent opportunity to draw even more attention to physics than ever before.

The first "Symposium on Physics Education" was held at Chubu University in 1991, and the 16th Symposium was held this year at Fukuoka University. This event features active and frank discussions based on exchanges of information and opinions among the members, and continues to expand and develop with each passing year. The Division's Journal, "Applied Physics Education," the only Physics Education journal in Japan to feature an academic journal format, complete with English abstracts and a referee system. The most recently published issue was Volume 29, and the Journal will continue to be published on a semiannual basis, growing even further as an internationally recognized education journal.

The Japan Society of Applied Physics currently has about 23,000 members, about half of which are involved in corporate research and development activities. In this context, the Division of Education in Applied Physics does not limit itself to the field of university education alone. Based on discussions of the need for corporate manpower education that began during the period of the Japanese "bubble economy," it welcomes participation by university professors as well as corporate personnel managers and training managers, holding "Symposiums with a view toward reforms in corporate education and industrial structures," which focus on entirely new approaches to education based on collaboration between companies and universities. The first Symposium, entitled "University Education and Corporate Education that Fosters Creativity" (Tokyo Institute of Technology) was held in 1991, and two more symposiums were held in successive years. Since the fourth gathering, this theme has been incorporated into the educational symposiums held during the spring and autumn national conventions.

Japan's society is becoming increasingly complex, with a sluggish economy and unpredictable political and economic conditions, changes in the international environment in terms of science and technology, and diversification of school education along with changes in Japanese people's views of education. Even as it maintains close contacts with companies and other academic societies, the Division of Education in Applied Physics will emphasize its unique characteristics as part of the Japan Society of Applied Physics, undertaking activities that further clarify and fulfill the Division's role in JSAP and in society as a whole. We are confident that the activities of each and every one of the Division's members will contribute to the Japan's future growth and development. We would like to take this opportunity to thank all members for their determined efforts and continuing support.