

## **Extracurricular Activities and Their Role in Promoting the Learning of Science and Technology in the Kingdom of Morocco**

### **General Context**

Attention to extracurricular activities in the Kingdom of Morocco arose out of awareness on the part of the Moroccan government of the relationship between education, on the one hand, and social and economic development, on the other, after the government considered education a national priority. This awareness emerged through the development of a national charter for education and training strategy, which set out the benchmarks of the Moroccan government's policy approach over ten years toward the learning of science and technology. It is of paramount importance.

In 2008, an emergency program was developed to complete the reform that began in 2001 and that grouped 27 programs into four main poles under the project title "Strengthening the Teaching of Science and Technology," described next.

#### **1.1. Major targets of the Project**

- The major targets of the project are as follows:
  - To improve the quality of teaching and learning of science and technology on the three educational levels.
- To enable students of science and technology to fit better into the technological culture of modern societies, and to contribute to professional support for government projects of a scientific or technological nature.
- To respond to the obligations of the Moroccan government, especially these related to direct two-thirds of pupils to study science and technology.

#### **1.2. Measures of the success of the project**

A plan consisting of the following five measures has been developed to ascertain the success of the project:

1. The completion of a national diagnostic on the status of science and technology education in Morocco and guidance on achieving completion.
2. The establishment and strengthening of scientific inquiry approach in teaching science and technology.
3. The development of scientific activities in school life.
4. A review of methods and evaluation criteria in science and technological studies.
5. The promotion of science and technology through public information campaigns and awareness, in order to increase the percentage of students in science and technology to two-thirds of all students.

#### **1.3 The development of extracurricular scientific activities in school life**

The plan focuses on this measure more than any other because of the interest of the development of science and technology in extra-curricular activities. The measure has the following aims:

- To foster the growth of the institutional scientific clubs and structures of free exercises and expanded scientific projects by students supervised by professors with the same concerns.
- To train teachers and students in the methodology required for the preparation, delivery, and evaluation of scientific projects.
- To encourage students to participate in national and international demonstrations and competitions in science and technology.

#### **1.4 Science clubs**

The plan involves the following steps in preparation for the formation of science clubs:

- The dissemination of a ministerial memorandum setting forth guidelines for the creation of science clubs in educational institutions. (organizational aspect)

- The creation of a science club manual. (the organizational aspect)
- The creation of a manual about the preparation, delivery, and evaluation of scientific projects
- The organization of national fairs and regional competitions to select the best scientific projects.

## **2. Some achievements**

The following are among the recent achievements of the Moroccan government in the promotion of science and technology:

### **2.1 Moroccan participation in the 2010 Intel International Science and Engineering Fair (ISEF)**

Consistent with the requirements of the project "Strengthening the Teaching of Science and Technology," and in partnership with Intel, the Ministry of National Education, Higher Education, Training and Scientific Research participated in the 61st version of ISEF, in San Jose, California, USA, between and May 8 and May 14, 2010. As a reminder, the organizers of this fair invite student "researchers under 18 years old" from different countries all over the world to present their scientific and technological projects. In a spirit of rivalry and positive competition, more than 1,500 students representing 50 countries attended the 2010 fair. Despite the diversity and differences in approach, interest, application area, and methodology, all of the projects demonstrated at the fair were united in the pursuit of improving life on earth for humans.

Morocco was represented by a team composed of teacher of science, engineers, and two student winners in the national fair. Their project involved the application of remote control to electronic devices equipped with a number of features that allow people with disabilities or special needs to use appliances or multimedia from a distance. The project was admired by both participants and visitors to the fair and drew the interest of local newspapers (as illustrated by the attached photos), despite the fact that Morocco's participation in the international fair was the first of its kind.

### **2. Preparation for the competition at the national level**

In partnership with Intel, the Moroccan National Center for Educational Innovation and Experimentation organized different training sessions for professors and educational instructors of mathematics, life and earth sciences, physical sciences, and technology and science engineering. Training was supervised by international experts made available by Intel. The objective of the sessions is to empower teachers in skills and techniques that will enable them to supervise the projects of students and guide the students to the completion of their projects.

Among the achievements of the training was the preparation of 299 professors in different regions of the kingdom. In addition, 30 instructors became qualified to train teachers belonging to their districts in the methodology of building projects.

### **3. Participation in the International Mathematics Olympiad from 5 to 13 July 2010 in Kazakhstan:**

Implementing the requirements of Ministerial Memorandum No. 147, Special Olympics, Mathematics, issued in Rabat on October 16, 2009, the National Committee for Mathematics Olympiad, in coordination with the Department of School Life, organized multiple training courses and competitions, resulting in six students becoming qualified to compete in the International Mathematics Olympiad 2010 held July 5–13 in Kazakhstan. In the end, Morocco was ranked 67th out of 98 countries, with a total of 55 points. One of our students won a bronze medal. Morocco's standing in 2010 was far better than in 2009 in Germany, where we were ranked 74th with only 32 points.