Astronomy Education in

Egypt

This overview is part of the project "Astronomy Education Worldwide" of the International Astronomical Union's Office of Astronomy for Education.
More information: https://astro4edu.org/worldwide

Structure of education: Education in Egypt is generally divided into four stages. The primary stage, which start from the age of 3 years in private schools, and start from the age of six in public schools. The child spends 6 years in this stage of education called basic education, where emphasis is placed on the child's knowledge of basic skills in addition to knowledge of the Arabic and English alphabets, and the child moves from one stage to another, next stage, is the preparatory stage, which lasts for three years, in which the student receives a lot about academic subjects (Arabic and English – Mathematics – Science) in addition to practicing some mathematical and artistic activities. The next is the secondary stage it is three years (which is a stage that prepares for university study) in which some tend to delve into the study of literature and some tend to study science - according to grades, some students (with lower grades) may go to technical study and may not complete their university level and this percentage ranges between 10-15%. In the secondary level, students can access information through research, and the student's skills grow. In all stages of basic education (from primary to secondary) there is a private education with fees and governed free education in addition to the availability of Al-Azhar education (which, along with the academic subjects, focuses on studying matters of religion). This is followed by the university level.

Education facilities: There are government schools with high densities, especially in large cities such as Cairo and Giza, and there are private schools, with densities less and appropriate .. The schools are located at appropriate distances and some private schools provide a means of transportation .. The facilities of water and electricity are available in general, but access to Internet services is still limited, but given the difficult period of the recent outbreak of the epidemic, I believe that concepts are on the way to change, as the importance of the Internet in the educational process has been felt and the student's acquisition a lot of skills through this. Also the Internet facilities are widely spread in homes and the student can use it to follow the education process.

Governance and organisation: There is one Ministry of Education for both government and private education, which is responsible for developing curricula, training teachers, following up the educational process for the pre-university level, and supervising the development of curricula. The curricula are developed periodically according to the requirements and recommendations.

Teacher Training: Mostly, the teaching in primary education is undertaken by graduates of education colleges directed to this stage (with some training directed to young pupils). Some university graduates may also work in primary education when there is an intensity. Whereas the teaching at the secondary stages is undertaken by university graduates, where there must be clear specialization in secondary education. In all cases the ministry of education undertakes the training of teachers partially before graduation where the teacher receives some training through the practice of the

educational process. To some extent , it happens that in some very limited cases that things do not proceed in this ideal way and the teachers may need further training.

Astronomy in the curriculum: There is a deficiency in specialized astronomy curricula at all levels of pre-university education in general. Teaching astronomy in the first stage is to teach the child the types of celestial bodies such as planets, stars and the sun, and this information comes in the context of the geography curriculum. As for the preparatory stage, there is in the science curriculum allocating a chapter with some detail about what characterizes the solar system, the orbits of the planets and celestial bodies, the differences between them, the phenomena of eclipses, lunar eclipses … etc. High school curriculum teaching about space exploration, gravity and satellites as part of the physics curriculum. Through student activities in all stages, a lot of information is highlighted about the universe. This is in addition to the fact that some schools create astronomy camps and follow the night sky. Recently there is a call from specialists to add an advanced curriculum in astronomy to keep pace with the remarkable progress in the astronomy and space sciences.

Astronomy education outside the classroom: Due to the apparent passion for knowing the universe and the celestial bodies, many astronomical clubs and societies are spreading in the republic, this is besides some of the initiatives aiming to increase the astronomical awareness. Specialists and some amateur contribute in teaching through many organized activities. Egypt is distinguished by the presence of a large astronomical institute equipped with a 74-inch telescope and a number of small telescopes can be used in teaching and training, also there is a planetarium that offers suitable displays for all ages and raises the level of awareness among children and youth. Also, the astronomical programs available on the Smartphone contribute greatly to the ease of access to a lot of information about the universe and celestial bodies in a fast and interactive manner.

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