



International Council of Associations for Science Education

A large, stylized globe is the central focus of the cover. It is rendered in a light tan color with a grid of latitude and longitude lines. The globe is set against a darker, textured background of the same color, which also features a faint, larger-scale grid pattern. The overall aesthetic is academic and global.

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*Extending and improving education in science
for all children and youth by assisting
member associations throughout the world*

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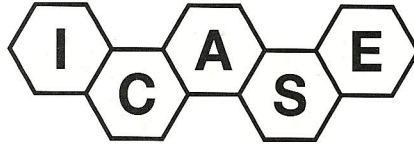
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Science Education International is the quarterly journal of the International Council of Associations for Science Education (ICASE). ICASE was established in 1973 to extend and improve education in science for all children and youth by assisting member associations throughout the world.

This journal provides a means for associations, institutions, centres, foundations, companies, and individuals concerned with science education to share perspectives, concerns, ideas, and information that will foster cooperative efforts to improve science education, and which will serve as a chronicle of the advancement of science education throughout the world.

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Editorial

NICOS VALANIDES (nichri@ucy.ac.cy), *University of Cyprus, Nicosia, Cyprus*

It is a great pleasure for me to introduce the first issue of the new volume (Volume 15, Issue 1, March 2004) of *Science Education International (SEI)*, the official journal of ICASE. This publication reflects a renewed attempt to increase ICASE's involvement, contribution, and visibility in science and technology education. It also reflects the increasing recognition that *SEI* provides a means for associations and individuals concerned with science education to share information, ideas, developments, perspectives, and concerns, and promote cooperative efforts to improve science education for all children all over the world. There is a need for co-ordinated and collaborative international efforts to design and implement educational change that will empower future citizens to satisfy their basic needs and be productive in a social and cultural environment that will be increasingly dominated by science and technology.

It is, furthermore, of utmost importance to recognise that science education should constitute an integral part of general education that has no higher purpose than preparing people to live personally fulfilling and responsible lives. The goals of science education that stem from this recognition go beyond subject matter knowledge, or conceptual understanding of science, and encompass understanding of the nature and processes of science, its interrelationships with science and technology, social values and responsibility, and the personal development of the individual in terms of problem-solving and decision-making capabilities, communication skills, epistemological development, and career awareness. This framework determines the context of the on-going reform in science and technology education and commands a real transformation of the teaching-learning environment that should be based on constructivistic principles and alternative evaluation strategies.

From this perspective, science education should help students to develop understandings and habits of mind that they need to think for themselves and face the realities of life. These understandings and habits of mind can help people in their everyday life to deal with problems that often involve systematic observations, collection and organisation of evidence, and draw tentatively valid conclusions.

The development of thinking skills and attitudes has been the goal of many reform efforts in science education, but the results of national and/or international assessments, such as NAEP and TIMSS clearly indicate that the majority of children in school do not learn how to think and reason. Educators also argue that students are not well equipped to think and communicate effectively, individually

learn, and solve simple or complex problems that they may face in real life. Thus, the new science curricula all over the world should put more emphasis on inquiry-based approaches and mainly target to develop certain habits of mind and the science processes without neglecting the important concern for *relevant science for all children and future citizens*. There is also an urgent need to continuously support underdeveloped and developing countries to infuse relevant science and technology in their educational systems, and enjoy more and more the advantages of our era that is dominated by science and technology.

Thus, we (as ICASE officials, member associations, and individual subscribers to SEI) embark on a new challenging journey that is characterized by a multiplicity of new initiatives. The present issue of *SEI* reflects the ambition of ICASE to be more actively involved in re-shaping science and technology education all over the world and accomplish its mission. I would like to express deep appreciation to many individuals who are involved in ICASE and the journal for many years, and to welcome so many new friends and colleagues who joined the *Editorial Board* and willingly decided to offer their support and expertise for improving *SEI*. I would also like to encourage colleagues from all over the world to contact us, submit papers, become reviewers, and support the circulation of *SEI* by assisting us to increase the member associations of ICASE and the number of subscribers to *SEI*.