

**MASHAV - Israel's Agency for International
Development Cooperation**

The Aharon Ofri MASHAV International Educational
Training Center (METC)
invite professionals
to participate in the



STATE OF ISRAEL

International Course:

**Education for Science and Math –
STEM Framework**



Israel's Agency for International
Development Cooperation
Ministry of Foreign Affairs

12-31/3/2017

MeTC 
MASHAV Educational Training Center
מרכז מש"ב • להדרכה בינ"ל בנושאי חינוך ע"ש אהרן עפרי



About the Course

Background

"The important thing is not to stop questioning. Curiosity has its own reason for existing. One cannot help but be in awe, contemplating the mysteries of eternity, of life, of the marvelous structure of reality. It is enough if one tries merely to understand a little of this mystery every day." Albert Einstein

In a world that is becoming increasingly complex, where global problems require multidisciplinary solutions, where citizens and communities need to be creative and analytical in the way they deal with problem solving. Our education process need to be measured not only by what we know, but also by what we can do with that knowledge and even by our ability to develop and combine this knowledge. It is more important than ever for our children and youth to be equipped with the knowledge and skills connected to the 21st century reality, where change is becoming the only constant.

In this context, all learners should be prepared to think deeply and critically, to get the knowhow and the skills for creative and analytic thinking so that they have the chance to become the innovators, educators, researchers, and leaders who can solve the most pressing challenges facing our world, both today and tomorrow.

These are the types of skills that students learn through Science Education using STEM as a curriculum based on the idea of educating students in four specific disciplines — science, technology, engineering and mathematics — in an interdisciplinary and applied approach. Rather than teach the four disciplines as separate and discrete subjects, STEM integrates them into a cohesive learning paradigm based on real-world applications.

While it is almost impossible to list every discipline, some common areas include aerospace, astrophysics, astronomy, biochemistry, biomechanics, chemistry, mathematical biology, nanotechnology, neurobiology, nuclear physics, physics, and robotics, among many, many others. As evidenced by the vast variety of disciplines, it is clear that the Science Education fields affect virtually every component of our everyday lives.

This new science education approach is connecting the dots and providing the educational system with more tools for a quality education, integrating knowledge and methods from different disciplines, using a real synthesis of approaches and principles that we should specially pay attention to: Interdisciplinary, Creativity and Relevance to reality.

-The STEM approach is connecting the dots and providing the educational system with another tool for quality education; integrating knowledge and methods from different disciplines, using a real synthesis of approaches.

-In a world where technology has been integrated into our daily lives and in which global problems require multidisciplinary solutions, citizens and communities need to be creative and analytical in the way they deal with problem solving. This Educational approach provides the tools for this kind of approach. We must give the importance it deserves to creativity in order to success in a world where change is becoming the only constant.

-What separates this approach from the traditional science and math education is the blended learning environment and showing students how the scientific method should be applied to everyday life. It teaches students a different thinking and focuses on the real world applications of problem solving.

Nowadays we add to STEM an A, for arts. The addition of the arts to the original STEM framework is important as practices, such as modelling, developing scientific explanations, engaging in critique, which often underemphasized in the context of math & science education.

The course designed by The Aharon Ofri MASHAV International Educational Training Center is aimed at directors of education departments in education Ministries, Principals and supervisors of primary and secondary schools; Educational staff at schools ,Training institutions, whose responsibilities involve the allocation of resources and development of educational policies. It is based on the vast experience the Israeli education system has acquired over the years in working towards an educational environment contributive to sustainability and globalization.

Aims

- To analyze the place and role of Science in Education within national development
- To acquaint the participants with new concepts, methods, and tools regarding sciences education
- To develop Math -thinking skills through games and practices
- To present various educational projects and curriculum models used in Israel
- Policy-making, didactic and administrative aspects and teacher training courses.
- To share and exchange experiences and knowledge gained in the participants' countries of origin
- To adapt the teaching environment to new pedagogical approaches
- To elaborate on the concept of Science in education
- To acquaint participants with a variety of learning methods and applications

Main Subjects

-Policies in Science Education: How to adapt them in teaching planning to the socio-economic realities of the country

-Knowledge and ability to teach the 'Nature of Science'(i.e. the key principles and ideas behind scientific knowledge)

-Comparison; Deduction; Identifying components and relationships;

-Potential solutions for problem solving; Hypothesis; separating variables; Presentation of information and/or knowledge in diverse ways.

- Interactive Science and Math's projects with real-life applications

- Creation of original solutions to real-world problems
- Participant collaboration and discussion promoting higher order thinking skills
- Interdisciplinary academic environment
- Creativity development
- Study and discussion about different areas and curriculum models
- The use of teaching aids from simple and low cost materials to modern and sophisticated instruments
- Teachers' training - needs, policy and realities

Methodology

The Aharon Ofri MASHAV International Educational Training Center has developed a unique, holistic approach that takes into consideration the emotional and creative aspects of the pedagogical process. Its working methods enable program participants to make practical use of theoretical knowledge.

- Lectures and discussions led by experts
- Workshops
- Analysis of educational planning through written material and professional visits
- Meetings with institutional administrators and acquaintance with projects at the national and regional levels
- Simulations, panel discussions, and group work
- Preparation of final projects by individuals or groups
- Study tours at schools, educational centers, universities, teacher training institutions and pedagogical resource centers

Application Requirements

Directors of Education Ministry departments, Regional Education Directors, School Principals, Schools Educational Staff, Counselors, Supervisors, Lecturers at Teacher Training Institutions and Researchers in relevant Educational fields.

Application forms

Application forms and other information may be obtained at the nearest Israeli mission or at MASHAV's website: <http://mashav.mfa.gov.il/MFA/mashav/Courses/Pages/default.aspx>.

Completed application forms, including the medical form, should be sent to the relevant Israeli mission in the respective country.

Application forms should be sent to the relevant Israeli Mission and to The Ofri Center by or before 15.1.2017

General Information

Arrival and Departure

Arrival date: 12.3.2017

Opening date: 13.3.2017

Closing date: 30.3.2017

Departure date: 31.3.2017

Participants must arrive at the training center on the arrival date, and leave on the departure date. Early arrivals/late departures if required, must be arranged by the participants themselves, directly with the hotel/center, and must be paid for by the participant him/herself.

Location and Accommodation

MASHAV awards a limited number of scholarships. The scholarship covers the cost of the training program including lectures and field visits, full board accommodation in double rooms (two participants per room), health insurance (see below) and transfers to and from the airport. Airfares and daily allowance are not included in the scholarship.

Health Services

Medical insurance covers medical services and hospitalization in case of emergency. It does not cover the treatment of chronic or serious diseases, specific medications taken by the participant on a regular basis, dental care and eyeglasses. Health authorities recommend that visitors to Israel make sure they have been inoculated against tetanus in the last ten years. Subject to the full binding policy conditions. Participants are responsible for all other expenses.

The course will be held at the A. Ofri International Educational Training Center, situated in the Ramat Rachel Hotel on the outskirts of Jerusalem. Participants will be accommodated in double rooms (two participants per room).

About MASHAV

MASHAV – Israel’s Agency for International Development Cooperation is dedicated to providing developing countries with the best of Israel’s experience in development and planning. As a member of the family of nations, The State of Israel is committed to fulfilling its responsibility to contribute to the fight against poverty and to the global efforts to achieve sustainable development. MASHAV, representing Israel and its people, focuses its efforts on capacity building, sharing relevant expertise accumulated during Israel’s own development experience to empower governments, communities and individuals to improve their own lives. MASHAV’s approach is to ensure social, economic and environmental sustainable development, and is taking active part in the international community’s process of shaping the Post-2015 Agenda, to define the new set of the global Sustainable Development Goals (SDGs).

MASHAV’s activities focus primarily on areas in which Israel has a competitive advantage, including agriculture and rural development; water resources management; entrepreneurship and innovation; community development; medicine and public health, empowerment of women and education. Professional programs are based on a “train the trainers” approach to institutional and human capacity building, and are conducted both in Israel and abroad. Project development is supported by the seconding of short and long-term experts, as well as on-site interventions. Since its establishment, MASHAV has promoted the centrality of human resource enrichment and institutional capacity building in the development process – an approach which has attained global consensus.

<http://mashav.mfa.gov.il>

<https://www.facebook.com/MASHAVisrael>

About The Aharon Ofri MASHAV International Educational International Training Center (METC)

The Aharon Ofri MASHAV International Educational Training Center (METC) was established in 1989 as a professional extension of MASHAV - Israel's Agency for International Development Cooperation. The activities are targeted to meet the Millennium Development Goals (MDGs) set by the United Nations to be fulfilled by the year 2015.

The Center's vision is that education is the starting point for a person to build himself/herself a gate to new possibilities. Education is the key to a better future and shields against physical harm and confronts moral dilemmas. Education enables us to ask for proper healthcare when needed, and the way to stay healthy and adopt responsible behavior with our bodies. Education is sharing, learning and growing up together with others. Through education we can learn to take better care of our world, treat it respectfully and use wisely the resources it offers us.

Education concerns itself with learning at all levels, from elementary and secondary school through adult education, and provides knowledge and training for basic skills development, civic awareness, community education, education for special populations, treatment for youth (Including those at risk), youth integration, youth leadership, education for health and the prevention of drugs abuse.

Since its inception, the A. Ofri Center has trained thousands of professionals from countries throughout the world. The Center cooperates with senior staff in the Israeli Ministry of Education, academic experts, governmental organizations and non-governmental organizations. In addition, it communicates and cooperates with key international organizations such as UNESCO, OECD, USAID, UNODC, OAS, IOM and the World Bank.

In adopting the UN's Millennium Development Goals, the A. Ofri Center contributes to the sustainable development of human resources internationally, based on knowledge and experience accumulated in Israel.

For further information, please contact:

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