# TOP 15

## HOW SHOULD ISRAEL IMPROVE ITS MATHEMATICS AND SCIENCE EDUCATION IN MIDDLE SCHOOLS SO IT IS AMONG THE TOP 15 EXCELLING IN THE WORLD?

Dinner with Leaders of Education Institutions

*NOVEMBER 12, 2018, 19:00-21:30, THE PALACE RESTAURANT, WALDORF ASTORIA, JERUSALEM*

Human talent is Israel's most important resource. We take pride in our scientists and entrepreneurs who have successfully built a small "startup nation" and a striving economy in a very difficult region and against all odds. For a country under continuous security threat and demanding military needs, staying the course with education, research and development, is a remarkable achievement. However, national and international results of Israel's education performance in recent years indicate a growing concern. Although slightly improving, the achievements of education are very low and gaps between students are very high, mostly those aligned with ethnic and economic backgrounds.

The data on what occurs today in Israel's education system, points to middle schools as a weak link. Students report waning curiosity, chaos in the classrooms and many cancelled lessons. Teachers complain that the gaps between students are impossibly wide and that the classrooms are overcrowded. During the past decade, various committees have recommended combining, separating, dismantling or redefining middle schools. They have argued that middle schools lack a clear objective: students acquire the fundamentals in elementary school and focus on the matriculation exams in high school, but there is no agreed-upon goal for middle schools.

We believe that there is now a window of opportunity to change course toward a systemic improvement in science education in middle schools. The two-fold increase in the number of five-unit graduates in mathematics between 2012 and 2018, and the substantial increase in the number of high school graduates specializing in the sciences, can serve as a 'magnetic force' pulling middle schools in an upward direction. Together we can generate momentum and enable students to deepen their knowledge, develop skills and begin to specialize. A systematic and coordinated effort is required, based on the profound need to raise the bar, set higher goals, concentrate on ambitious teaching and focus on learning.

### QUESTIONS FOR DISCUSSION

1. Do you agree with the definition of middle schools in Israel as a 'weak link', which is in need of a clearer objective? Do you perceive the notions of 'focus on learning', 'raising the bar' and 'choosing excellence' as appropriate routes for improvement?
2. What and how needs to change so that science education in middle schools improves? Must this include changes in curriculum, learning material, teaching capacity, testing and public opinion?
3. Do you see yourself and your organization as meaningful leaders and/or partners to a collective endeavor to advance Israel to the Top 15 excelling countries? What attracts you to participate, and what concerns you?

As **background** to the discussion, we recommend reading the following:

A. Working Paper for Consultation with Partners: Choosing Excellence in Middle School Mathematics and Science Studies – Philanthropic Roadmap 2019-2024 (B&W printable version).

**PARTICIPANTS**

1. YOSSI **BAIDATZ,** Executive Director, Centre for Education Technology (CET)
2. ISRAEL **BAR-JOSEPH**, Vice President, The Weizmann Institute of Science
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4. NAVA **BEN ZVI**, Chairman of the Israel Center for Excellence through Education, previously President of Hadassah Academic College Jerusalem
5. RAVIT **DOM**, Executive Director, Amal Educational Network
6. HAGIT **GLICKMAN**, Director, The National Authority for Measurement and Evaluation in Education (RAMA)
7. NIVA **HASSON**, Director of Branco Weiss Institute
8. SHOSH **NACHUM,** Deputy Director General, Head of Pedagogic Administration, the Ministry of Education
9. RON **ROBIN**, President, University of Haifa