

## TOP 15

### **MOTIVATION TO LEARN AND TO TEACH IN MIDDLE SCHOOL**

A meeting with teachers and experts to discuss the question of what drives students and teachers to invest and excel in middle school mathematics and science studies

*NOVEMBER 13, 2018, 14:00-15:00, DJANOGLY HALL, MISHKENOT SHA'ANANIM*

Confusion in middle school is manifested by the gap between statement and deed. Parents say that in middle school they expect their children to be socially well-integrated and develop meaningful relationships and values. Students say that what interests their parents is academic achievement, but they testify that they are ambitious and confident in their ability to succeed. Their teachers however, claim that students lose interest and that they are not prepared to invest and make an effort. Teachers say they believe in in-depth teaching that stimulates thinking and creativity, but in practice, even they admit they teach technical skills and procedural fluency, whether due to constraints or by choice.

Clarity and consistency could be achieved through an agreement on goals and objectives. For the individual student and teachers, there is an unwritten contract of mutual commitment that exists between them: "I will invest in you, you invest in your studies, and this is how the road to a better future will be built for you and for us all". However, until such a relationship of trust is formed, students come to mathematics and science classes with different and partial motivations, with curiosity mixed with anxiety. It is the teacher's job to identify what motivates each student and to harness that for vigorous learning. Teachers help neutralize fixed mindset patterns and demonstrate that effort leads to progress.

We assume that students need a personalized learning plan that places their learning in the center. This refers to a plan that is based on an analysis of their knowledge, difficulties, way of thinking and pace of learning, and which presents a vision for the future and ambitious goals. It is an evolving plan which combines learning discipline, overcoming misconceptions, creating opportunities for success experiences, and constantly striving to improve. It functions as a transparent and open "agreement" between the teacher, the student, and the parents and expresses their joint, mutual responsibilities.

#### **QUESTIONS FOR DISCUSSION:**

1. Where does the gap between statement and deed in middle school derive from – with respect to students, parents, and teachers? Does this attest to the absence of a clear goal, to basic disagreements or perhaps, to communication difficulties? What can be done to overcome this gap?
2. How can teachers build a "personalized learning plan" that connects to what motivates each student, that will help him or her emerge from the confusion and take responsibility, to invest effort, to overcome difficulties, to persevere, and proceed in measured steps? Are there additional tools that facilitate such a process?
3. What drives middle school teachers of mathematics and science to invest, make an effort, and to improve their teaching? What must be done to build up middle school's attraction to excellent teachers?

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](#) (with an emphasis on Program 1 – “Focus on Learning”, p. 8-9) ([B&W printable version](#))
- B. [How to Smooth the Transition from Middle School to High School in Mathematics and the Sciences](#) – Hadas Brody Schroeder
- C. [Motivation to Learn and Teach Mathematics and Science in Middle Schools: Insights from a US Study Tour 2018](#)
- D. [Factors Driving Student Success on the 2015 PISA Tests -The Results from Israel – Tzur Karelitz and Noam Keshet](#)
- E. [What do Parents Think of Middle School and of Mathematics and Science Studies? – Hagar Lerman and Liat Atzmon Hecht](#)
- F. [What Motivates Students to Invest and Excel in Mathematics and Science Studies in Middle School – Hagar Lerman and Liat Atzmon Hecht](#)

### **PARTICIPANTS**

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