



Ronen Mir - Schwartz/Reisman Science Education Centers The Weizmann Institute of Science, Rehovot, Israel

1. **What** is our target audience?
2. **Why** do we want to reach Teenagers?
3. **How** do we do it?
4. What are the **difficulties**?
5. What are the **results**?
6. Can u **replicate** it?

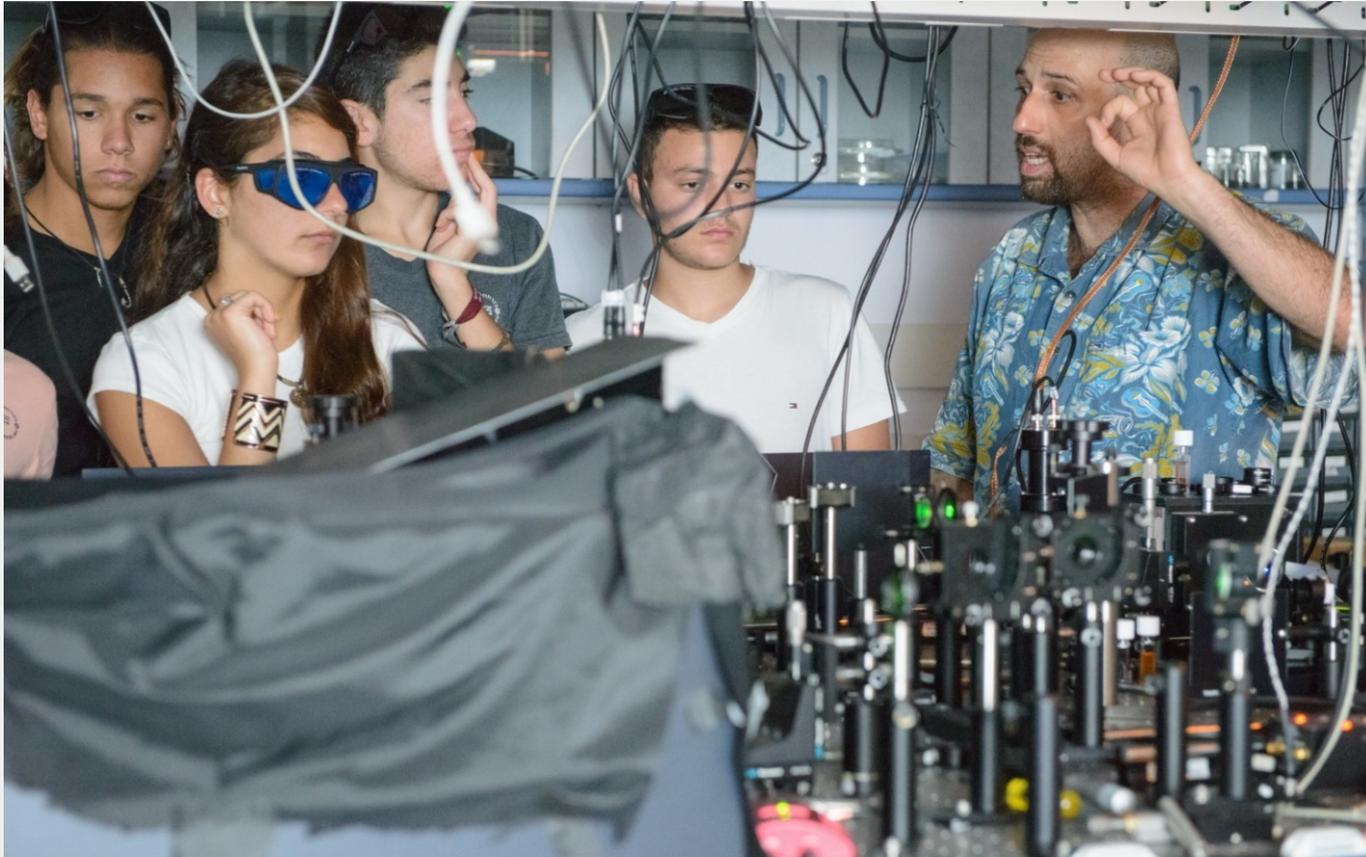
AMBES Visit
October 15, 2018





1. What is our target audience?

- High School students between 15-18 years old – 10th-12th grades.
- We serve **all** High Schools in our community. About 2,000 students per Center.
- All students who **choose** Physics study it at our Science Education Center as part of their regular school day.





2. Why do we want to reach Teenagers?

- A critical (last?) age where students choose whether to study Science.
- Develop students to be critical thinkers, who understand the culture of Science.
- Increase number of students underrepresented in Science, like girls.





3. How do we do it?

- Combine innovative **Formal with Informal** Science Education methods
- Student use of **modern laboratories and equipment** enables the learning of abstract issues in a scientific way.
- Excellent Equipment
- **Teachers, Teachers, Teachers!**





Main asset and benefit - Schwartz/Reisman Teaching team works together fulltime to develop lessons, share ideas, mentor students.

Continuous Support to teachers – like Explainers in ISE.





Best equipment, lessons based on demonstrations and student experiments.



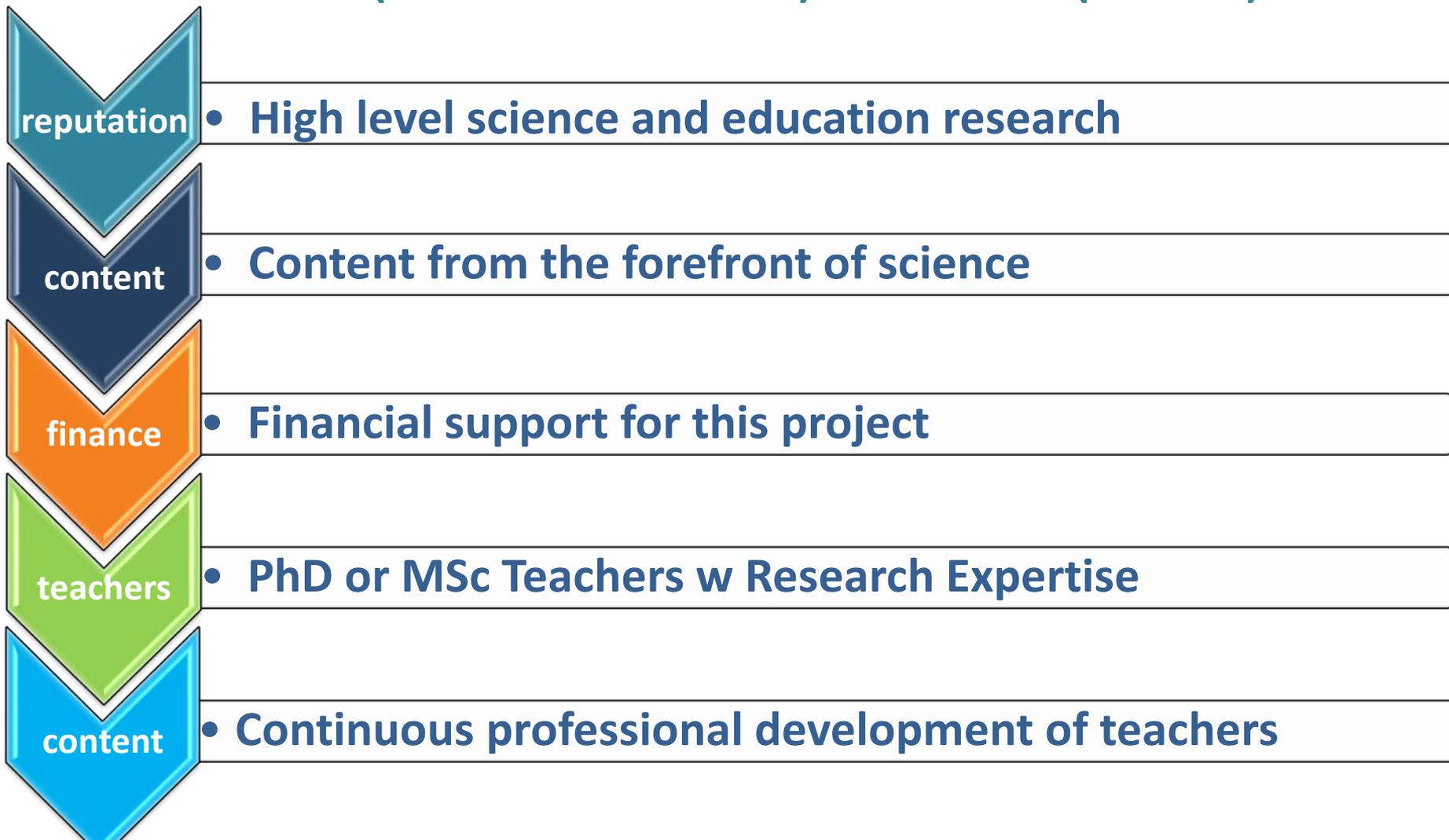


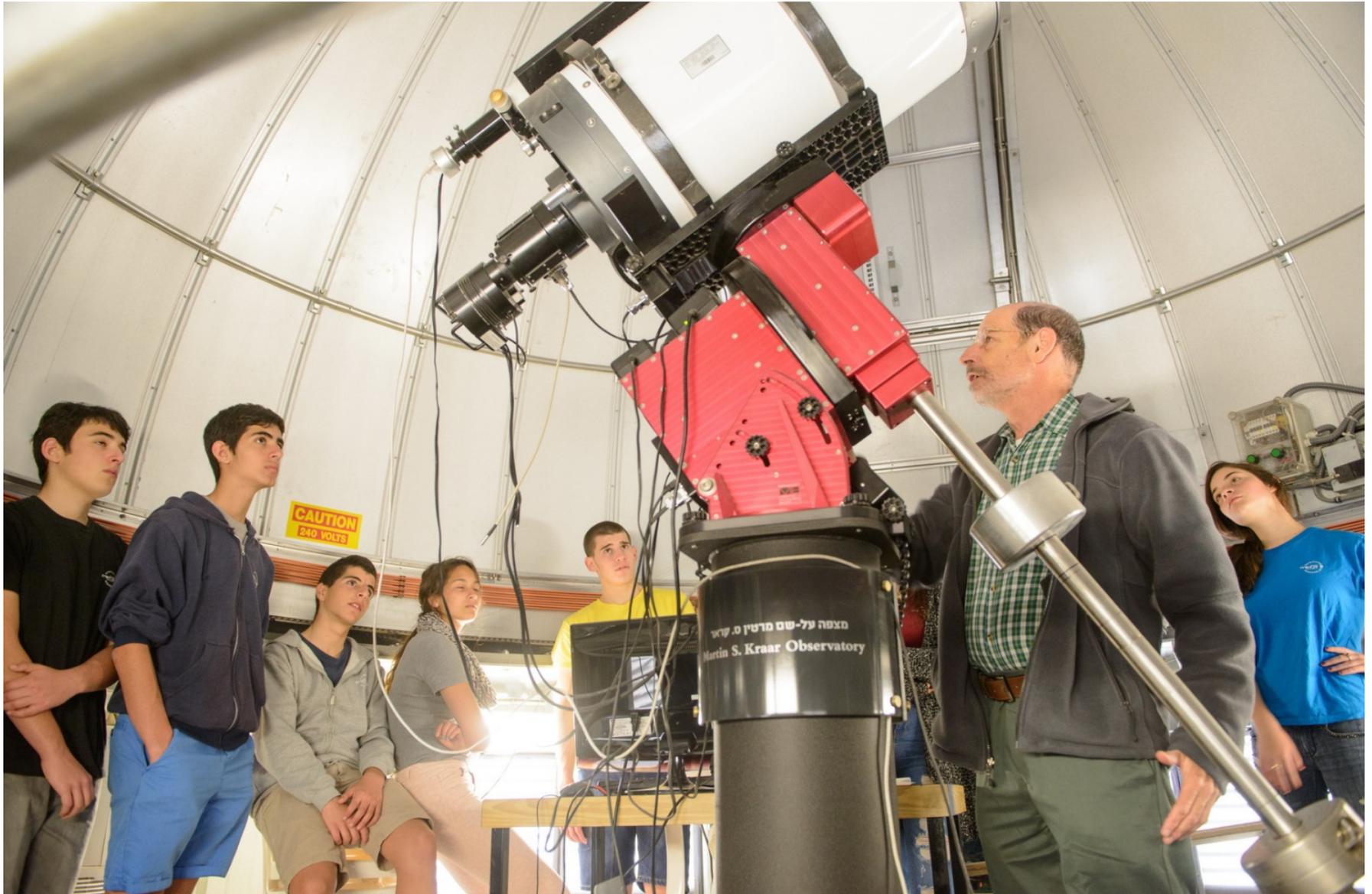
New building, 18 Learning Class-Labs, 3 floors





Collaboration between Informal (Weizmann Institute) and Formal (schools)







Students in Weizmann's Schwartz/Reisman Science Education Center

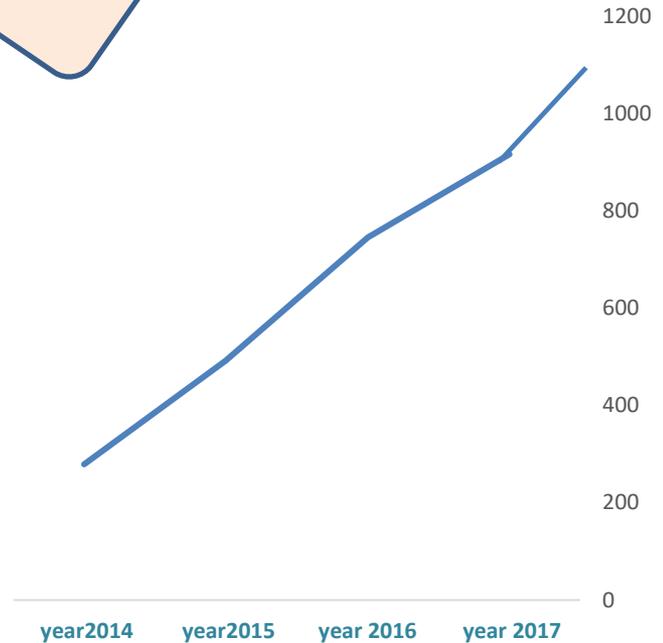
11th Grade
346

12th Grade
243

10th Grade
531



Number of Students





4. What are the **difficulties**?

- Communications and Class Scheduling with many (12-17) High Schools simultaneously.
- Transportation from/to Schools.
- Recruiting Lab Technicians.
- Receiving funds from the municipalities, in a timely fashion.
- Construction challenges.



Independent Assessment
formative and summative

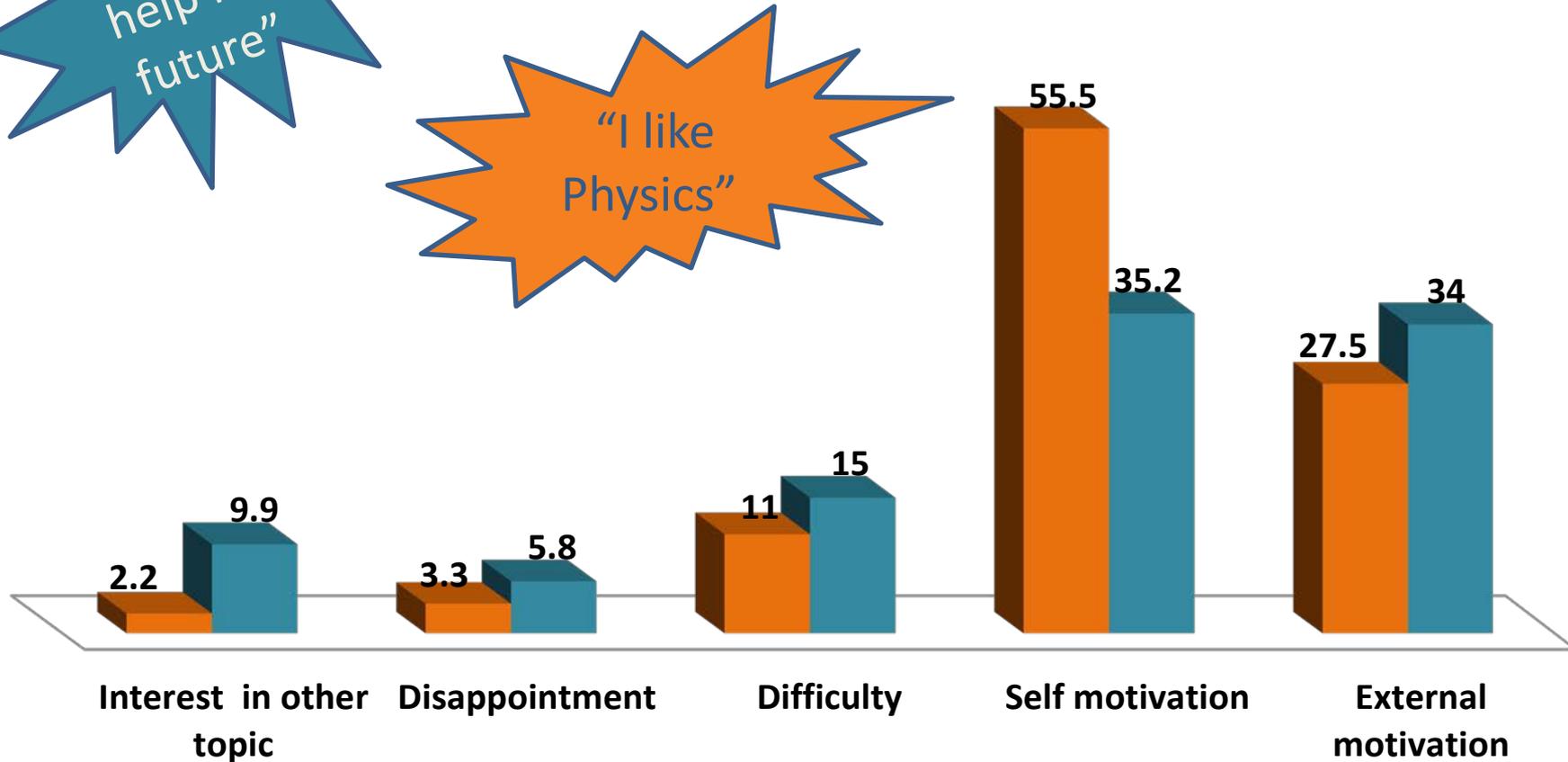




5. What are the **results** ?

STUDENTS PERCEPTIONS OF PHYSICS (324 responses) COMPARISON BETWEEN 10TH AND 11TH GRADES

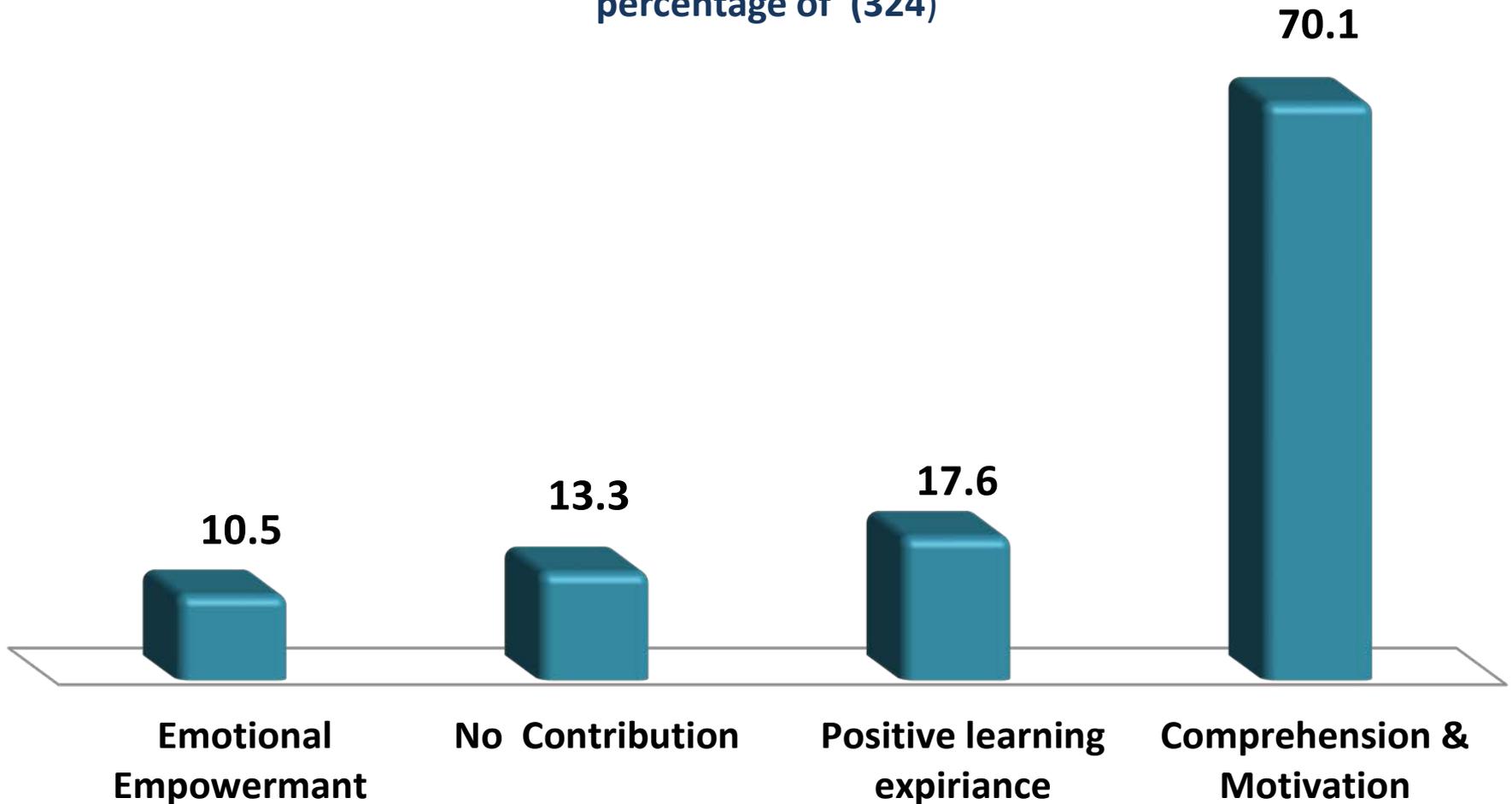
■ 10 grade ■ 11 grade





SRC Contribution to your studies

percentage of (324)





6. Can u **replicate** it?

The National Program – S/R Science Education Centers

- The model is working very successfully in Tel Aviv (28 years) and Rehovot (5 years)
- Rishon LeZion SRC opening October 2018.
- Construction of additional S/R Science Education Centers is underway.
- National Program envisioned for Israel.





Rishon LeZion Schwartz/Reisman Science Education Center





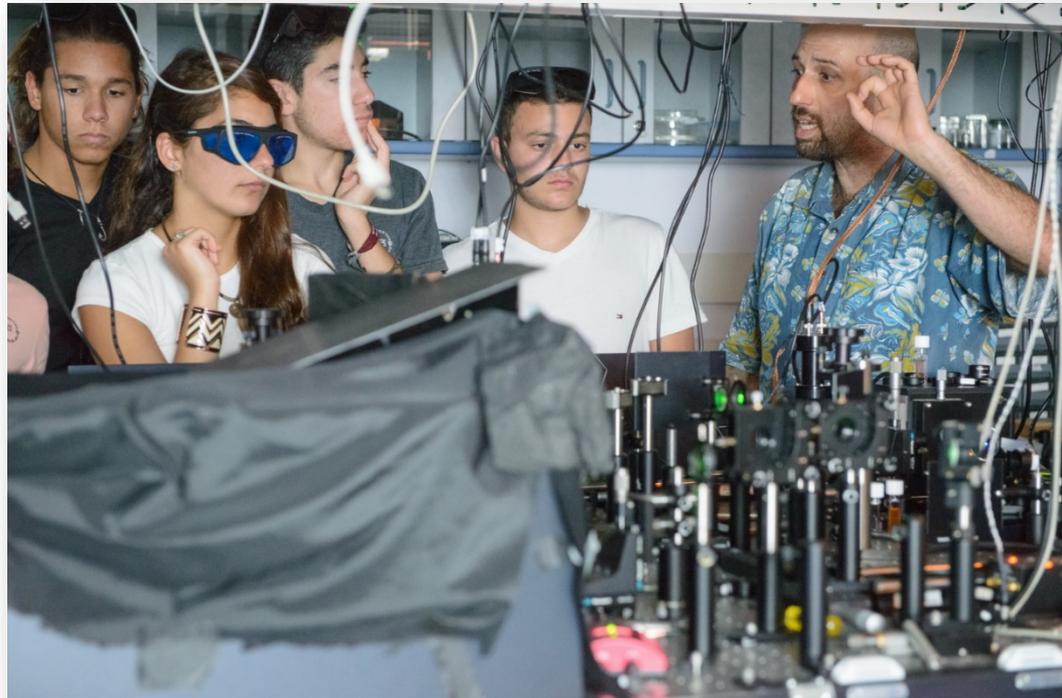
Mikve Israel Schwartz/Reisman Science Education Center





Science Shared Campuses Addis Ababa, Ethiopia + 5 more

1. Shared Science Campuses
2. STEM Centers
3. Summer outreach programs
4. Science Museums
5. Virtual computing
6. Mobile Lab.





1. Impact from the Shared Science Campuses

- Students graduate from these schools each year with high quality education
- G11 & G12 are expected to volunteer for the summer program at other public schools,
- 800 students from the science schools Volunteer each year in only one region of the country





4. Science Museums

- The first museum deployed at AASTU in 10 themes totaling 40 exhibits;
- Produced by MadaTech in Israel
- Two more Science Museums to be deployed (Aksum and Mekelle),





Science and Technology Park, IAG, University of Sao Paulo, Brazil





Espaco Ciencia, Recife, Pernambuco, Brazil

<http://www.espacociencia.pe.gov.br/>

