THE TRUMP FOUNDATION
קרן טראמפ

Working Document, November 2014

# STRATEGIC ROADMAP (Updated)

The three years since the establishment of the Trump Foundation have offered us a real opportunity for engagement, dialogue and learning. During this period, the foundation began to build its portfolio of programs, while forging partnerships with leading educational institutions in Israel that develop and implement groundbreaking projects.

Openness and engagement are values that have guided us from the start. Our Strategic Roadmap, which preceded our work and drives it until today, was written together with experts, researchers and teachers. They all continue to be at the heart of our activity, providing sound advice, opinions and critique, and they play a central role in our work.

Now the time has come to stop for a moment, to summarize what we have heard from you and to take another look at the foundation's strategy. We should ask ourselves: What have we learned about what is needed? About what is possible? About what is difficult? What is clear to us today that was vague in the past? What is still blurry and requires clarification? And how can we improve our work accordingly?

This document attempts to summarize the insights and lessons so far, and to propose an updated strategic roadmap. Like its earlier version, the document serves as a navigation map that is in constant motion. Therefore, it is open to comments, responses and proposals, as we are fully aware that further amendments will be made to the document in the future.

This is also a good opportunity to thank you for your friendship, caring, sincerity and candor. We recently received systematic feedback from you, which included a part that was very flattering and a part that guided to areas we must improve. Your feedback is priceless; we need it and wish to express our heartfelt gratitude for it.

We would be happy to receive similar feedback from you on this document. Please read it with a professional eye in light of your rich experience and share your thoughts, doubts and ideas with us. For us, it is a great honor to listen to you, to learn from you, and to be partners with you in pursuing a mission of social and national importance.

**The Trump Foundation team**

## KEY POINTS

The Trump Foundation was founded in 2011 in order to help the education system in Israel stem the decline in excellence in the study of mathematics and the sciences in secondary schools. We believe that turning the current regression into a positive trajectory in a sustainable and systemic manner is a primary need of the highest human, social and economic importance.

For this purpose, the foundation chose to invest in quality teaching that focuses on the learning of each student and supports them in their studies. We know that there are many students in schools, in all communities and of all backgrounds, who are interested and capable of excelling – if only they were provided with high quality teaching.

The Strategic Roadmap the Trump Foundation has followed since 2011 focuses on three aspects that affect the quality of teaching. The experience of successful education systems shows that each of these components is vital, but that systematic and sustained improvement occurs only when they are implemented together and in alignment:

1. **Attracting talent** – Encouraging a new generation of outstanding people to choose a teaching career, undergo training and become successfully integrated in teaching.

2. **Nurturing expertise** – Developing the clinical skill of teachers to promote the learning of each one of their students in a large and heterogeneous classroom.

3. **Showcasing practice** – Partnering with systems and networks that support quality teaching and helping them to demonstrate effective implementation at scale.

In pursuit of its mission, the Trump Foundation operates in four spheres of influence:

A. Initiating and supporting **programs** led by organizations with proven experience of success. The foundation tries to choose organizations that have relevant capabilities and deeply identify with the foundation's strategy; it helps these organizations operate within and together with the system in an expanding and ongoing way.

B. Developing professional **networks** linking its programs with professionals and practitioners who lead the field. In this manner, the foundation works to foster alignment and collaboration between diverse organizations that share the same goals, with the aim of maximizing effectiveness and ensuring efficiency and sustainability.

C. Forming **partnerships** for implementing quality teaching in schools designed to strengthen excellence in the study of mathematics and the sciences. The Foundation collaborates with stakeholders in order to build demand and capacity, and to display how through investment in teaching, significant results can be achieved in a system-wide and sustainable manner.

D. Creating **growing momentum** for strengthening excellence in the fields of mathematics and the sciences. As an overall umbrella for its activities, the foundation seeks that the work of those engaged in the field – in the government, in academia, in industry, in schools and the public – is coordinated and synchronized around shared goals and measures.

**A combination of these spheres of activity is designed to propel a national process that aims to significantly increase the rate of excellence in the fields of mathematics and the sciences within a decade. When this goal is realized, Israel will catch up to the world's leaders in educational achievement and will be better positioned to enter the second quarter of the 21st century.**

## NEED AND OPPORTUNITY

As a state that is built upon science and technology, and is perceived in esteem as "the startup nation," Israel cannot allow itself low educational achievement in general, and a low bar of excellence in particular. About ten years ago, following the publication of international test results that exposed the woeful state of educational achievement in Israel, the government took note of this problem and decided to increase the education budget, to gradually raise teachers' salaries and to supplement classroom instruction with individual tutoring and work in small groups.

Consequently, and thanks to a series of specific programs, early signs of improvement are appearing in the achievements of students in elementary and middle schools, and the potential for excellence in high school is growing. Nonetheless, the level of achievement is still low, the gaps are wide and the decline in the percentage of students taking matriculation exams at the level of five units has only started to slow-down. The coming years will determine whether the education system exploits its opportunity and succeeds in reversing the trend in a meaningful and continuous way.

When looking into the education data of Israel, we can see that widening the circle of excellence is an attainable goal. The high dropout rate from the five-unit level of mathematics and science indicates that there are many students interested in these studies, and that their school has identified them as suitable and capable. However, the rapid pace of instruction, the high level of requirements and the need for hard work and persistence find

some of them unprepared. The fact that small schools almost do not offer advanced-level studies in these subjects also reflects unrealized potential.

Other countries that have succeeded in significantly improving their educational achievements within 10-20 years, invested primarily in teachers and the quality of their teaching. They understood that a good teacher makes all the difference, and that each student deserves to enjoy quality instruction that allows students to fully realize their talents. Israel is also in a good starting point, since in our schools there are also outstanding teachers of mathematics and science who work relentlessly for their students; therefore, it is clear that any attempt to improve educational achievements in Israel must rely on these outstanding teachers.

However, during the coming years many teachers will reach retirement age. A large number of them are great teachers who immigrated to Israel from the states of the former Soviet Union, integrated into the Israeli education system and are now finishing their service. This juncture, which is already reflected in the closing of advanced tracks of study and the ad hoc assignment of teachers who are not appropriately trained, is a great challenge. But it is also an opportunity to help the education system in Israel to better prepare the next generation of mathematics and science teachers.

A special role is reserved for philanthropy in the effort to expand the circle of excellence in Israel and in strengthening the quality of teaching. Philanthropy can and should act as a catalyst for innovation, for identifying and disseminating best practice, for encouraging collaboration and knowledge sharing, and for driving implementation. The Trump Foundation, together with other education organizations that view this subject as their top priority, is working to help assure that Israel takes advantage of the opportunity it now possesses and that educational achievement – and excellence in particular – will be restored to its high level of achievement and status in our society.

## WHY IS IT CRUCIAL TO EXPAND THE CIRCLE OF EXCELLENCE?

In the 21st century, mathematics and the sciences are important for contending with the problems of the **world** – to cure disease, to supply water and food, to bolster security, to enable prosperity and to safeguard quality of life. Graduates of the education system who completed their studies at a level of excellence in these fields are considered to be prepared for the challenges and opportunities of our generation, having demonstrated an ability to address complex problems in changing environments and devise innovative solutions for them.

In **Israel** in particular, excellence in the fields of mathematics and the sciences places students in a position of relative advantage as they begin their adult lives. As a country that has built its economy on science and

technology, people with knowledge and ability in these areas can find fertile ground for applying their talents. Today, a quality matriculation certificate that includes five units in mathematics and in a scientific field is a springboard for acceptance into technological units in the army, prestigious departments in the universities, and for employment at relatively high wages.

The study of mathematics and science at a level of excellence helps students to develop **individual** characteristics that are important for their future. It combines broad knowledge, in-depth understanding and a high-level of thinking, and gives expressions to attributes of creativity, innovation and initiative. It develops learning habits that strengthen resilience, as it entails significant effort, investment of time, practice and persistence. It also involves planning, self-assessment, an emphasis on quality performance and on learning from mistakes, while fostering an ability to cope with difficulty and failure.

The expansion of excellence is also a **social** value and objective of opening doors, offering opportunities and narrowing gaps. Many students in Israel – in the center of the country and in the periphery, Jews and Arabs, religious and secular, boys and girls – are capable of this, if only they are presented with the challenge and provided with high quality teaching that is adapted to their abilities, difficulties, pace and style of learning. When these students fulfill their potential, they will build a better future for themselves and their families, and will help ensure the strength and prosperity of the Israeli state and society.

## WHAT IS EXCELLENCE IN THE AREAS OF MATHEMATICS AND THE SCIENCES?

Excellence is a high level of understanding, thinking and implementation in which students are guided by the knowledge and skills they have acquired, using them intelligently and creatively to contend with a new and complex situation.[1] This ability entails acquiring substantial knowledge, skills in analysis and in-depth learning, character traits of curiosity, initiative and communication, as well as moral values of individual and social responsibility.

Students at a level of excellence are:

### KNOWLEDGE

A. Gradually building a broad and in-depth foundation of knowledge that enables them to conceptualize, generalize, extract and implement, based on research they conduct and models they design for complex situations. They see the various aspects of the problem, know how to precisely express and explain their choices and

[1] This definition is based on the products of the national initiative to strengthen science education (*5*2*) and on the work of the U.S. National Research Council (2012) on the subject of *Developing Transferable Knowledge and Skills in the 21st Century*, definitions of levels of excellence in the OECD's PISA examinations, the Israeli Curriculum in mathematics, physics and chemistry, and analysis of new curricula in a number of countries around the world.

thinking, and utilize this to describe phenomena, solve problems and create new knowledge.

### SKILLS

B. Developing logical, spatial and algorithmic thinking, as well as creative and critical thinking. They are capable of planning and explaining an experimental array, while applying complex connections between fields, relations, sources of information and various representations. They easily translate between them, choose, compare and evaluate strategies for solving problems and draw conclusions at a high level of abstraction.

### CHARACTERISTICS

C. Enjoying challenges and solving problems, assuming personal responsibility for learning, ready to persist, invest and practice, willing to face difficulties and situations of pressure, while demonstrating consistency, determination and patience. They learn from mistakes, are keen to contend with complex, open and unfamiliar situations, and employ resourcefulness, creativity and a high ability of interpersonal communication and cooperation.

### VALUES

D. Setting ambitious goals for themselves and seek the truth, solutions, success and breakthroughs, while internalizing the limitations of science and the principle of doubt. They demonstrate integrity, ethical conduct and fairness, and are tolerant and open to diverse opinions and to their own mistakes and those of others. They are aware of the moral responsibility that derives from the use of scientific knowledge and take action to improve the society in which they live.

## WHAT IS HIGH-QUALITY TEACHING OF MATHEMATICS AND THE SCIENCES?

Countries that succeed in education invest primarily in teachers and in their teaching. These efforts are based on research and experience indicating that the quality of instruction is the most influential factor in the classroom in explaining disparities in student achievements. Therefore, the foundation's working assumption is that there is no shortcut – or detour – for expanding the circle of excellence in a continuous and sustainable way, without investing in the professional ability of the teaching corps.

We have noticed high performing education systems in Western societies have turned the teaching occupation from an 'industrialist', production-line, blue-collar occupation, to a clinical expertise. Clinical professions are unique in their high commitment to each 'patient', which includes setting

ambitious individual goals and treatment program, diagnostics, customization, monitoring and feedback. In such disciplines the practitioner takes an active role in a professional community, routinely consults with colleagues, participate in clinical rounds, residency programs, as well as in mentoring and coaching.

We therefore assume that quality teaching of these characteristics is a key factor in every field of study and in all stages of education. However, it plays a special role at the level of excellence in the study of mathematics and science. Since they are abstract fields that are considered difficult to teach and learn, where knowledge and skill are built together, there is a need for exercises, practice, persistence and understanding, deeper learning, higher order thinking and knowledge transfer. The teacher's ability to simultaneously encourage many students to learn, persist and succeed in such level is, therefore, a very special mission.

**Quality teaching** at a level of excellence in the fields of mathematics and science is a high level of instruction, which is methodically and systematically implemented, with careful planning and rigorous performance, and is based on highly developed sense of self-awareness. As a clinical profession, it is performed in a professional community, with ongoing consultation and with a focus on the progress of each and every student. This type of teaching identifies the abilities and difficulties of each student, sets ambitious goals for them, adapts the teaching to the student's way of thinking and pace of learning, monitors progress and provides the student with constructive and supportive feedback.[2]

Personal merit is a prerequisite for quality teaching. Outstanding teachers come from the top third of university graduates and bring with them in-depth and broad knowledge, as well as solid confidence in the field of knowledge and its connection to related fields and to everyday life. They exemplify excellence in their conduct, keep up-to-date with innovations in the field of knowledge, read scientific and pedagogical publications, participate in conferences and seminars, and write, document and publish insights from their work and experience.

Quality teaching **focuses on the learning of each student**. Outstanding teachers:

A. Believe and are convinced that all of their students are capable of excelling; demonstrate a profound commitment to making the most of the opportunities that stand before them; set high and attainable **individual learning goals** with the students; stir their curiosity and help them to become independent learners.

B. Create an **inclusive and confidence-building learning atmosphere** in their classroom that allows for questions and mistakes, encourages the

[2] Based on standards of quality teaching in mathematics in Australia (2006), the standards for teaching in England (2012), the standards for math instruction of the National Council of Teachers of Mathematics and of the National Council for Professional Standards in Teaching in the United States, the work of John Hattie of New Zealand on quality teaching (2003, 2011 and 2012), the report of the Israel Academy of Sciences on the knowledge required for math teachers (2012), and reports by the Szold Institute on the teaching of mathematics and physics in Israel (2012, 2014).

expression of knowledge and opinions in writing and orally, and stimulates intellectual risk-taking. They respect their students, nurture communication skills and creativity, and encourage cooperation.

C. Have a practical understanding of **how students think and learn** mathematics and science. They comprehend how knowledge develops among students and can identify typical mistakes, ways of thinking, learning styles and developmental processes.

D. Are proficient in the use of a range of **assessment and evaluation techniques**, and know how to adapt them to the context in which the learning takes place. They document the learning performance of each student in a comprehensive way and use this in real time to map, diagnose, adapt the teaching and provide constructive and supportive feedback.

E. Use a wide arsenal of **teaching approaches and methods** and exercise sound judgment in choosing strategies and techniques appropriate for the context, the learning topic, the classroom, and the diagnostic findings regarding each student.

F. Give their students **explicit, constructive and reinforcing feedback** in accordance with their learning performance. They choose the type of feedback and the appropriate time to present it, and they use this feedback to help students to internalize the learning goals and become aware of how much they have progressed.

G. Take an active role in a **professional community**, which routinely operates under the leadership of master teachers and systematically focuses on student learning while analyzing evidence of teaching and learning from classrooms.

H. Build together the **professionalism of teaching**, design a shared instructional system, implement protocols of evaluation and create support systems for student learning, and improving their practice through peer-learning, documentation, analysis, mentoring and feedback.

## STRATEGY 1: ATTRACT TALENTED PEOPLE INTO TEACHING

Many students claim that quality teaching made all the difference for them. They note that their attraction to a field of knowledge can be largely attributed to an outstanding teacher. This often is also the reason they chose to major in a specific path of study. When students are asked what makes these teachers outstanding, the same answers are repeated: “They know how to connect to me, they identified where I’m having difficulty and how I think,” “they set ambitious goals with me, taught in a way that I can

understand and supported me along the way, believing [in me] and not giving up."

And in fact, high performing education systems are very serious about their quality of teachers and teaching. They set a high and competitive standard for acceptance for the study of teaching and employ teachers from the top third of university graduates. In South Korea, for example, teachers come from the top 5% of university graduates; in Finland, teachers come from the top 10%. This is especially true in the fields of mathematics and science – and at the level of excellence in high school, in particular – since instruction in these fields is seen as the educational arm of the scientific and technological communities.

If it is possible to learn from these successful education systems, we can say that talented people choose to be teachers only when teaching is considered a prestigious and honorable profession, when they feel support and encouragement from the public and its leaders, and when they feel that they are part of a more comprehensive effort in which education in the country is changing direction. They continue to teach as long as they are convinced that their work directly contributes to their students' learning and helps them to overcome difficulties and exploit their potential.

There are excellent teachers serving in schools in Israel, especially in the fields of mathematics and the sciences. They include outstanding teachers who are top-rate professionals, with rich and in-depth knowledge, quality teaching skills, attributes of excellence, values of commitment and a sense of mission. They see themselves as central to ensuring that many students choose, persist and succeed in their studies at a level of excellence, and they accord each student an individual response adapted to his or her abilities, difficulties, style and pace of learning.

However, a substantial number of teachers are now approaching retirement age, including many who immigrated to Israel from the states of the former Soviet Union in the 1990s. Consequently, there is a severe shortage reflected in the closing of study tracks and the assignment of unsuitable teachers. This is an enormous challenge, but also a great opportunity because the education system in Israel will develop its next generation of math and science teachers during the coming years. This is an opportunity to make sure that those new teachers are excellent and that they receive the best training and coaching.

At the start of its work, the foundation posed a threshold question: "Are there enough excellent people to fill the shoes of the veteran teachers?" It soon became clear that the conditions for this are ripening. The public concern for the future of education, the new salary accords, the growth in the education budget and the addition of small-group instruction – all contribute to initial signs of an upturn in learning achievement. Concurrently, there is an increase in the demand for programs of teacher training in general and in the fields of math and science in particular.

It is important to note that many of those choosing to teach math and science today have special characteristics. They include a significant percentage of people over 35 years of age, from central and northern Israel, who have a degree in science or math and pursued a career in their field of specialization after completing their studies. Now, they have reached a stage in their lives in which they are interested in teaching. The central motives for this career move include a love of science, a sense of social mission, an aspiration to balance work and family, and job security.

The government identified the potential and in recent years has led an effort to identify, select and place these new teachers. Some of the initial efforts achieved partial success and the lessons drawn from them have been studied by the government and the foundation, including the need to focus on identifying the most outstanding and suitable candidates, to conduct clinical training within the schools under the guidance of veteran teachers, and to employ them in appropriate classrooms, with close supervision during their initial years of work and attentiveness toward their integration in school.

The Trump Foundation works in this field in two central channels of activity:

A. **Increasing the demand for the teaching of mathematics and the sciences** via public exposure of high quality teaching and of the possibilities and opportunities to engage in teaching. This effort focuses on potential target communities and their close surroundings, but is also part of a wider effort to rebuild public trust, with an emphasis on the outstanding teachers' values of professionalism and commitment.

B. **Creating a quality supply** via selection, training and placement of new teachers. This effort focuses on prestigious training programs designed for a select cadre of student teachers, meticulously identified in competitive selection processes. The programs are conducted in schools, with close guidance by outstanding teachers and continuous engagement in quality teaching focused on the learning and thinking of each individual student.

The expected results of the activity will be expressed by generating awareness, understanding, appreciation and public support for teachers of math and science, who will be boosted by an increase in the quantity and quality of suitable candidates interested in a teaching career. Consequently, a "pipeline" of clinical training will be built that will yield a new generation of math and science teachers who will successfully be integrated into the schools, filling the shoes of the retiring teachers and opening new mathematics and science classes.

The main task we face in this route will rely on three focal points of action during the coming years:

1. Completing the development and deployment of prestigious training programs, with careful attention to the competitive selection of outstanding candidates, and training them in skills of high quality teaching focused on student learning and thinking;

2. Developing a professional network of training programs aimed at sharing knowledge and mutual learning, sharing resources and collaboration, and driving a coordinated process that will make an impact on the mainstream of teacher training in Israel;

3. Facilitating connections between supply and demand, analyzing the gaps between them and attempting to bridge these gaps, with an emphasis on a shared language between teaching candidates and school life, and successful placement of graduates of the training in the schools.

## STRATEGY 2: NURTURING CLINICAL EXPERTISE

Students who choose to learn in the excellence track in high school face a tall hurdle. Many are talented students who are accustomed to excelling in all fields of study, almost without effort. Suddenly, sometimes for the first time in their lives, they are required to invest, persist, practice and contend with difficulty. Since knowledge and skills are acquired together in these fields, the gap that develops at the beginning is liable to widen and deepen, leading many students, including a high proportion of female-students, to drop out of the excellence track.

This is a situation in which the quality and type of teaching play a particularly important role. Nonetheless, teachers note that in practice they are forced to implement a selective teaching approach that is suitable mostly for students who succeed on their own. Teachers say that the message they receive from the school administration, which is interested in ensuring qualification for matriculation, is that they should not "take a chance" with students who are experiencing difficulty. In addition, there is the outside pressure of the curriculum and the examination. All of these push them to advance quickly with the learning material and accept as a given that students will drop out along the way.

Many teachers believe and are interested in seeing more of their students successfully complete the excellence track. However they note that addressing this goal entails practical difficulty for them as they need to find a balance between the desire to push the class toward in-depth study and thinking, without compromising the level and pace, and the need to provide an individual response to each student in real time. These teachers say that

they lack practical tools to support teaching that is adapted to the pace, style, abilities and difficulties of each student in the classroom.

In light of this, the Trump Foundation is helping teachers to promote instruction expertise that focuses on student thinking and learning. Our aspiration is to enable teachers to set individual goals and milestones with each student, and to adapt their teaching while tracking progress and providing feedback. The foundation works to help teachers observe their students' learning, examine their own teaching performance, learn from practice, acquire professional knowledge and jointly advance their professional development.

Pursuant to these objectives, the foundation is working to assist teachers in creating a professional community of colleagues in which they can analyze together the findings of the diagnosis and monitoring of student learning, as well as their connection to findings of videotaped documentation of teaching and learning in the classroom. This community is led by the teachers themselves, with mentoring by master teachers – senior-level teachers who lead the teaching and learning in the professional community and in schools:

A. **Professional communities**. Quality teaching as a clinical profession requires a professional community that systematically focuses on student learning, while documenting and analyzing the learning and teaching from classrooms, jointly formulating a shared and coherent instructional system, building routines of monitoring learning and mutual assistance for improving the practice of teaching.

B. **Diagnostics and monitoring**. Teachers need diagnostic and performance tasks that monitor the common errors and misconceptions, and students way of thinking and learning in real time, in order to acquire an up-to-date, comprehensive and in-depth picture of each student abilities, difficulties, progress, and thinking. The challenge is for these tasks to be valid and reliable, and that they can be effectively integrated into existing teaching and learning processes in regular classrooms.

C. **Video documentation**. Teaching and learning occur in isolation between the walls of the classroom. Therefore, teachers need ways of turning their practice into open and shared knowledge. Videotaping of classroom learning and teaching enables teachers to observe their own practice and that of their colleagues from a perspective of analysis and study. In this way, teachers can build their professional development by themselves, while focusing their attention on student learning and the connection between their teaching and the learning progress of each student in class.

D. **Master teachers**. In other clinical professions that develop their professional knowledge from practice, the practitioners rely to a

great extent on a senior-level professional, who leads the team and the mentoring of new practitioners, and assumes a significant role in the professional arena. In schools there are uniquely talented teachers who are held in esteem by their colleagues, with the latter turning to them to consult on professional questions and quandaries. The more these esteemed teachers are given a place as instructional coaches who lead the processes of improvement and learning of teachers, the greater the chance that quality teaching, focused on the student learning, will take deeper root.

We have realized that each of these components can be mobilized for a range of important pedagogical tasks that are not necessarily aimed at promoting high quality teaching that is focused on student learning and thinking. Therefore, in the first stage, the foundation's effort was devoted to working with its partner organizations to ensure that their development activity and implementation indeed focus on assisting teachers in documenting and analyzing the thinking of each student and in shifting to an approach that focuses on promoting student learning.

Today however, the main task we face comprises three stages:

1. **To explain what constitutes "high-quality teaching"** – including its objectives, measures, components and the connections between them, to both the professional community and the general public. Our goal is to help to illustrate and persuade that the use of these means can promote teaching in the clinical characteristics, and build an "appetite" and feasibility for this among the target audiences.

2. **To strengthen the development of building blocks that support quality teaching** and to create professional and organizational frameworks for building connections between them. The idea of creating an "Institute of Advanced Teaching" that compiles these components and serves as a professional home for master teachers seems to be an ultimate umbrella for this.

3. To prepare the ground for the conclusion of the R&D stage and helping the programs to move toward **readiness for widespread operation at scale**. This transition entails building operational and distribution capabilities while maintaining quality of operation and creating a stable and sustainable economic model relying on public funding.

## STRATEGY 3: SHOWCASING PRACTICE

The study of mathematics and science in schools does not occur in a vacuum and is taught in parallel to many other subject matters. Each school defines its goals, values and organizational culture in light of broad considerations, in which excellence and science education is only one and sometimes not the top priority. The administration of school, its teachers, its guidance

counselors and the parents - all influence the students' ability to choose, persist and succeed. The way they all operate also affects the ability of teachers to carry out quality instruction that focuses on the learning of each student.

From the experience in Israel and the elsewhere, we learned that quality teaching can flourish and the potential of each student can be realized only when the entire school community operates in collaboration, with a clear and coherent instructional system and shared goals and measures. In such schools, the staff portrays an ambitious future vision for its students, inculcates the aspiration for excellence in the team and in the educational climate, builds regular routines of diagnostics, monitoring and feedback, involves the parents and operates a professional community that assumes responsibility for improving the service offered to each student.

Moreover, high schools in Israel are owned by a local authority or a school network and are supervised and instructed by district and staff units of the Ministry of Education. These entities have a very substantial impact on schools and play a role in pedagogical, budgetary and organizational decisions. Therefore, the foundation began to build partnerships with them in order to help them institute quality teaching, establish a network of support and drive the expansion of the circle of math and science excellence at scale.

So far, the foundation has tried a number of such partnerships in order to learn which frameworks are more effective; what are the necessary conditions; and what would be an appropriate modus operandi. We have engaged in pioneering projects in several cities, networks and districts, and collaborated with a number of national programs led by the Ministry of Education. In addition, the foundation has helped to create new innovative implementation platforms; prominent among these are "The Virtual High School" and the "5*2" joint initiative, from which the national program of "Mathematics First" was developed.

From the foundation's perspective, there collaborative efforts are designed to achieve a number of goals:

A. To demonstrate how the components that support quality teaching unite around a shared vision of clinical instruction and thus contribute to an increase in the number of students who choose, persist and succeed in the advanced math and science tracks in high school;

B. To deploy the products of programs the foundation has helped to develop and to assist them become established and spread, while building a stable basis for operation and funding and relying on stakeholders and the sovereign public entities;

C. To stimulate "an appetite," to create alignment and to spur shared and expanding momentum focused on achieving the goal of broadening the circle of excellence in the fields of mathematics and science – on the local, district and national levels.

In order to decide how to focus the activity in this track in the most effective way, we will need to study the experiences in the field and address a number of dilemmas, including:

1. What constitutes a "coherent instructional system" in school? What are its components and the stages leading to its development? Will this require the development of designated tools such as an "individual learning plan" and measures such as a "quality matriculation certificate"?

2. Should the foundation act as a grant maker with its implementation partners or should it serve additional functions? For example, would it be helpful if the foundation creates a special team to support schools, or establish an intermediary organization to engage with municipalities on its behalf?

3. In these collaborations, how can the foundation preserve its philanthropic role that focuses on one-time investments in R&D, while the public entities exercise their authority and responsibility to lead, guide, operate and supervise?

4. Which adaptations are needed in order to implement such an effort with the diverse communities of Israeli society? Should the foundation prepare for significant modifications in partnerships with schools and cities of communities that administer their education systems independently?

## ASSESSMENT AND EVALUATION

The foundation's programs are run in their organizations by their leaders, with the help of the foundation's staff, and in many cases with assistance by a dedicated steering committee. Specific goals and measures are set for each program, and milestones and work stages are defined, with continual monitoring of their implementation. Each program includes performance measurement in order to receive relevant information in real time about the progress of the program. This enables corrections and improvements to be made along the way.

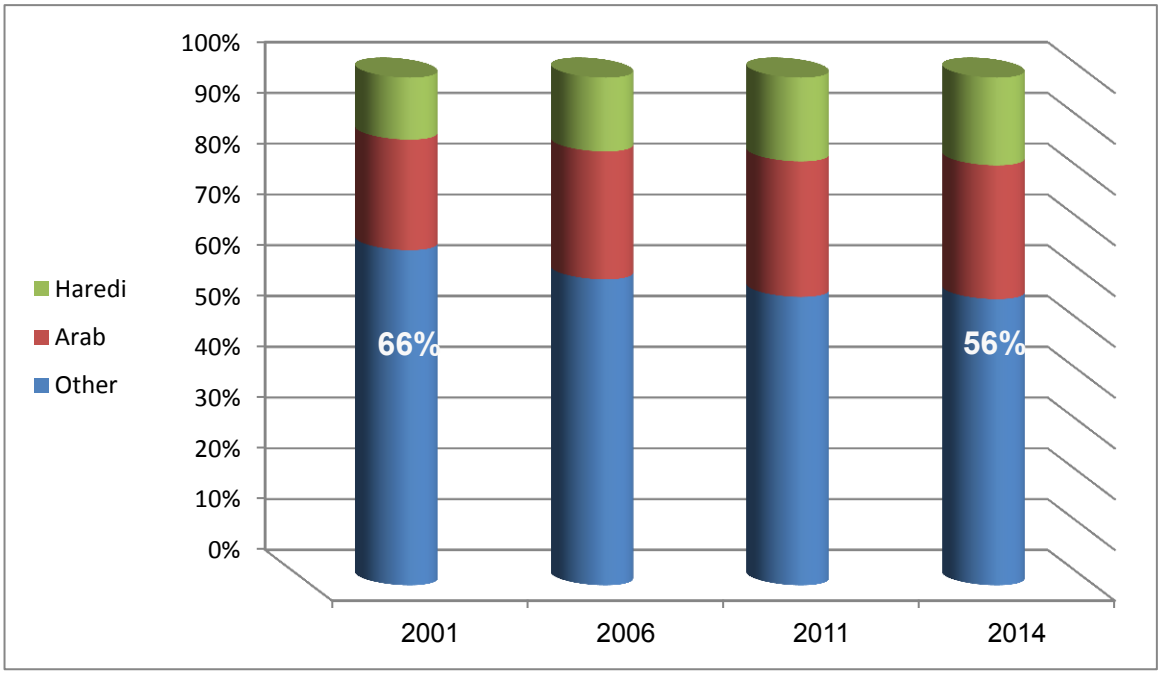
In addition, at the conclusion of the foundation's first five years of activity in 2016, we plan to conduct a comprehensive end to end review of our activity. This evaluation will focus on various levels, including an analysis of the way the foundation operates and the quality of service it provides to

its partners, an assessment of the direct products of its programs and their collective impact on the field, and an examination of the trends in national indicators that show progress in achieving the foundation's objectives.

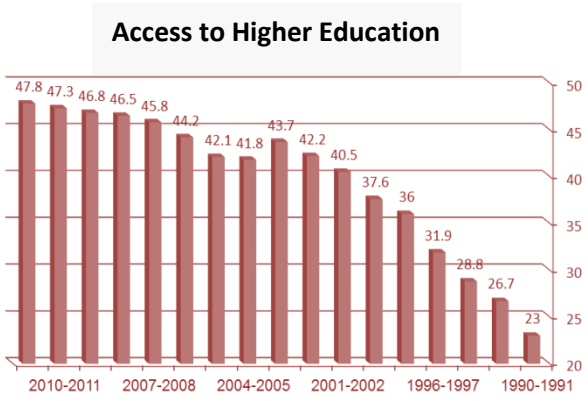
The upcoming meeting of the foundation's international advisory council will be devoted to this subject – examining the foundation's strategic roadmap, choosing key indicators we should document and measure, and recommending the suitable methods of evaluation.

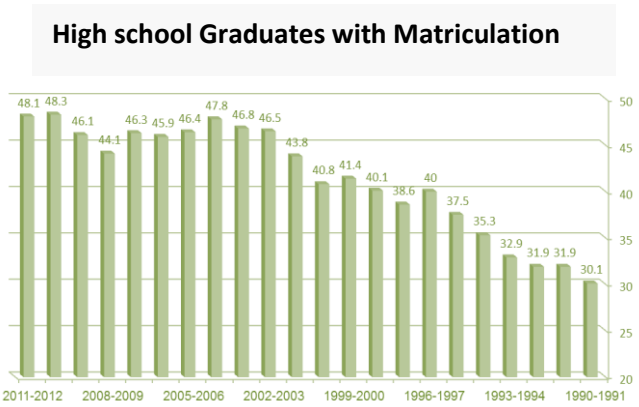
# NATIONAL AND INTERNATIONAL INDICATORS

## SCHOOL DEMOGRAPHICS 2001-2014

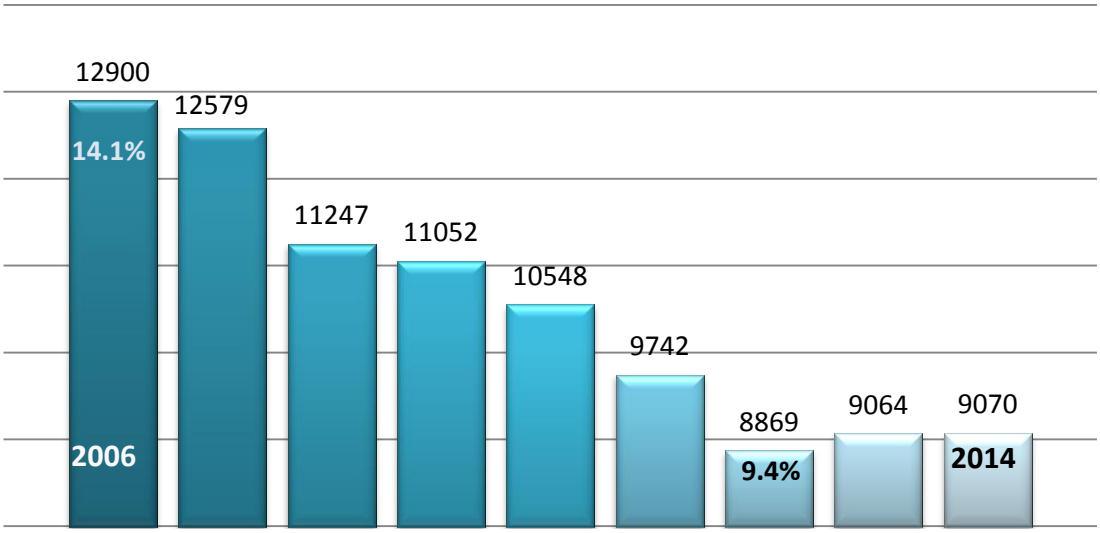



## ACCESS TO HIGHER EDUCATION 1990-2013

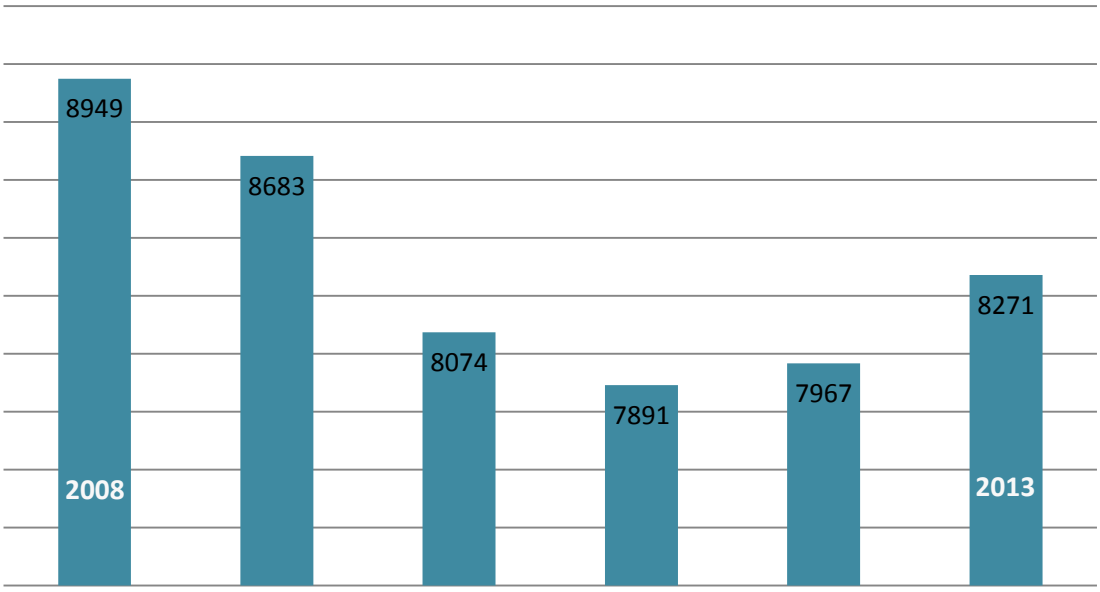


## ADVANCED MATHEMATICS IN HIGH SCHOOL MATRICULATION MAJORS

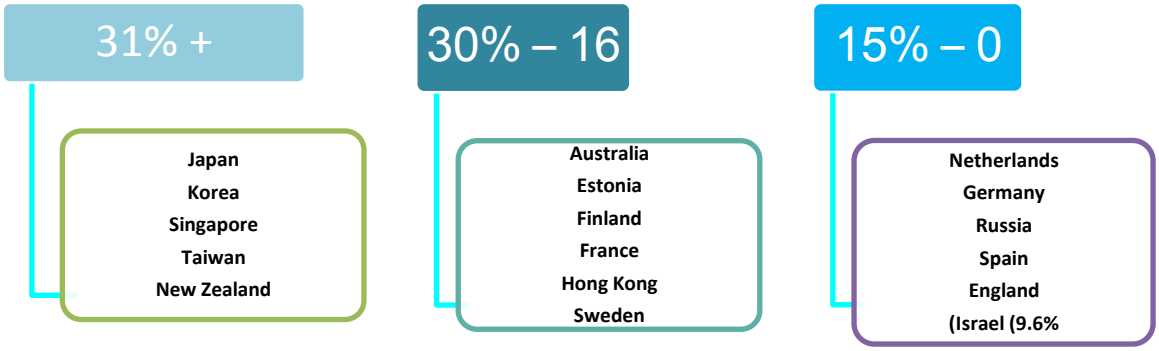



## ADVANCED PHYSICS IN HIGH SCHOOL ELECTRICITY MAJORS

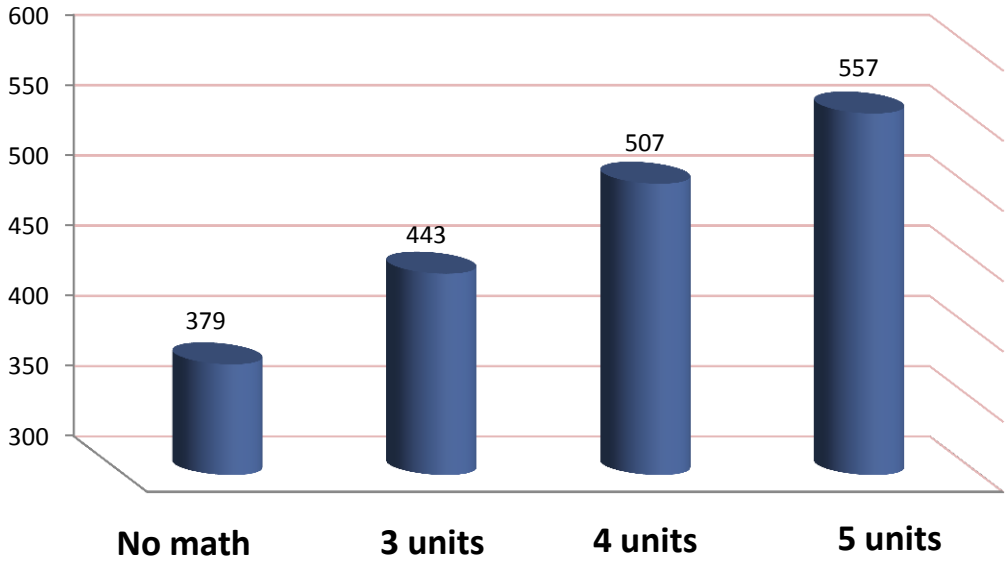


## ADVANCED MATH: HIGH SCHOOL FINAL EXAMS

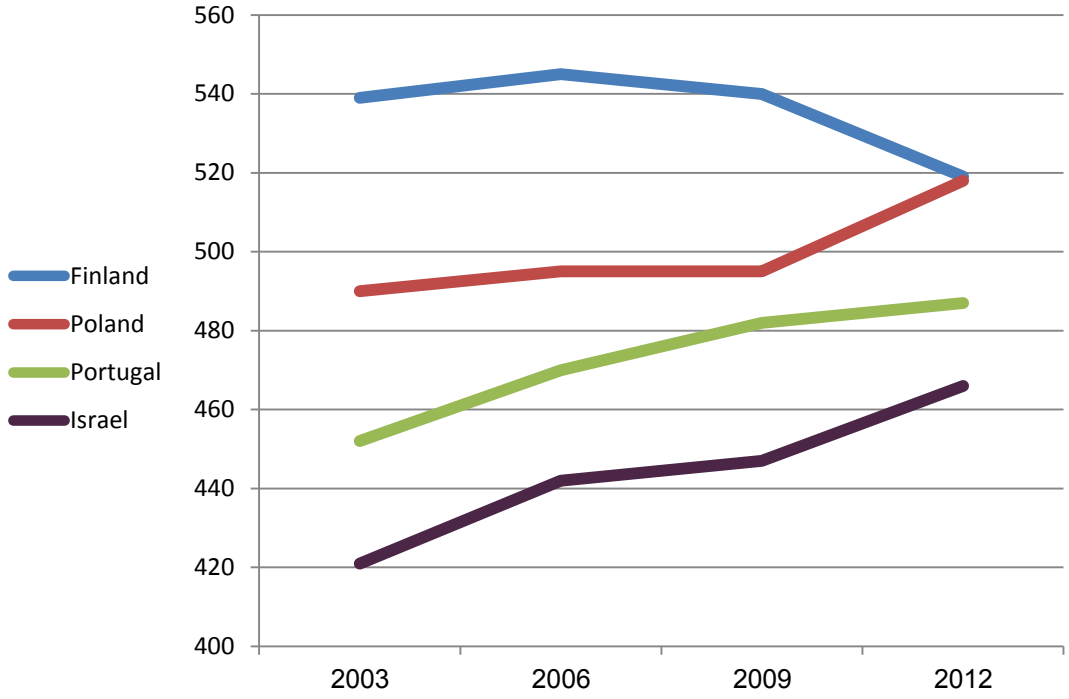
NUFFIELD FOUNDATION



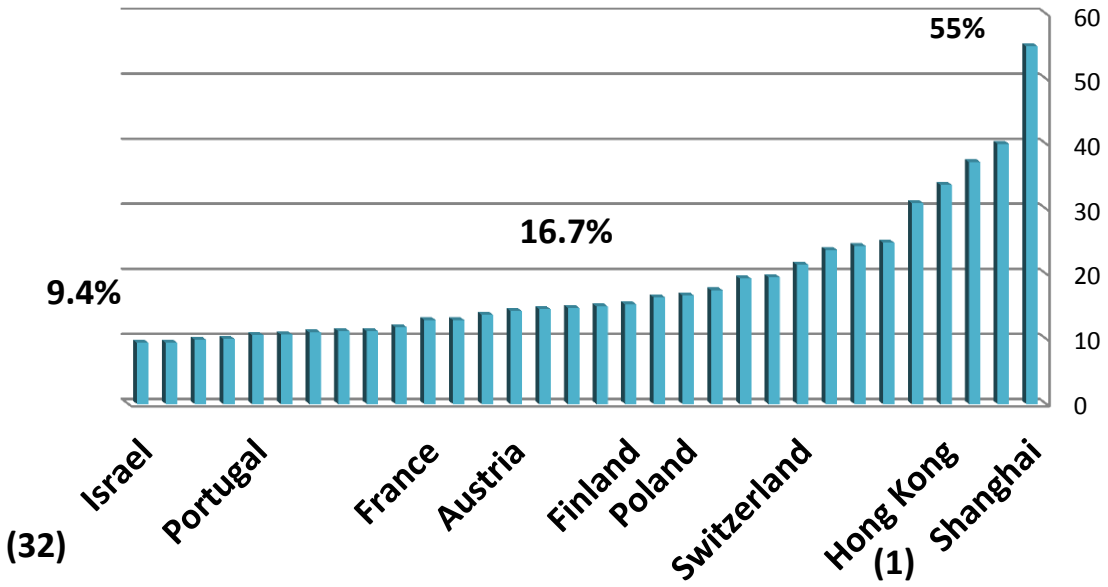

## CORRELATION BETWEEN PISA AND MATRICAULTION IN MATH



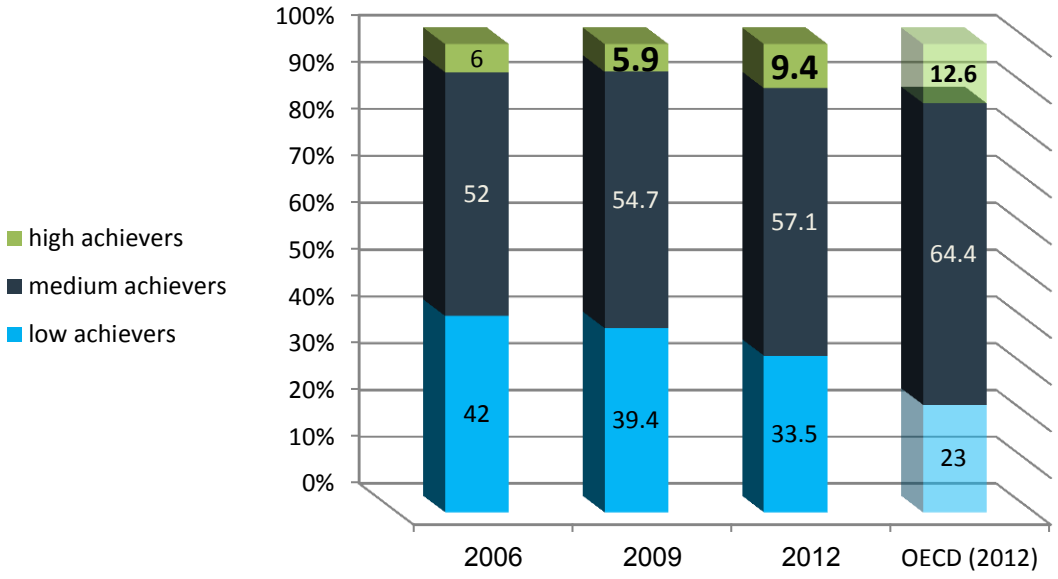
## PISA MATHEMATICS 2003-2012



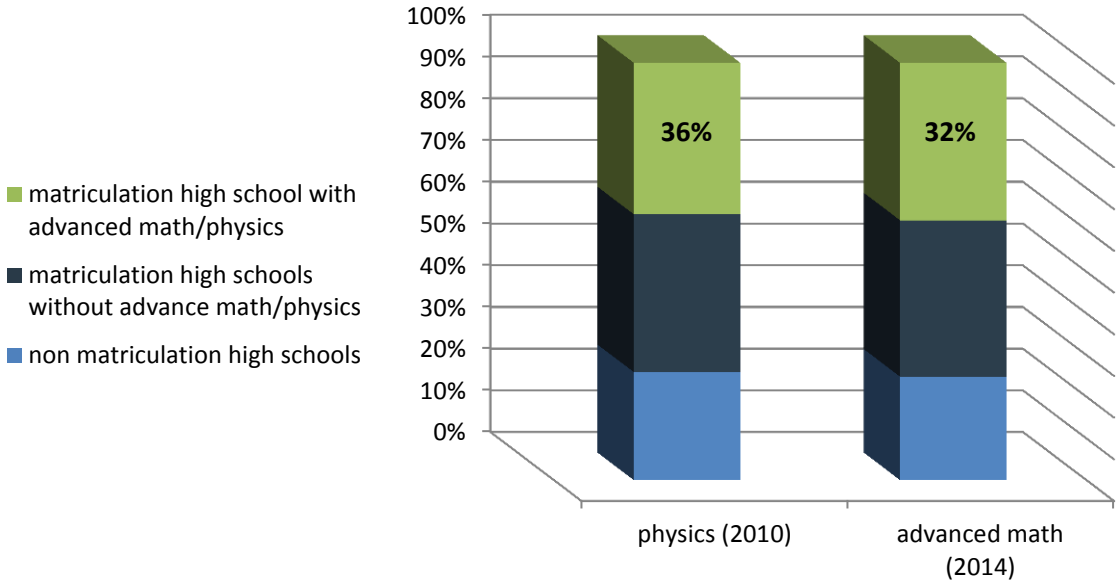

## % OF HIGH PERFORMING STUDENTS PISA 2012 / MATH (LEAGUE CHART)



## % OF HIGH PERFORMING STUDENTS PISA 2012 / MATH (TRAJECTORY)

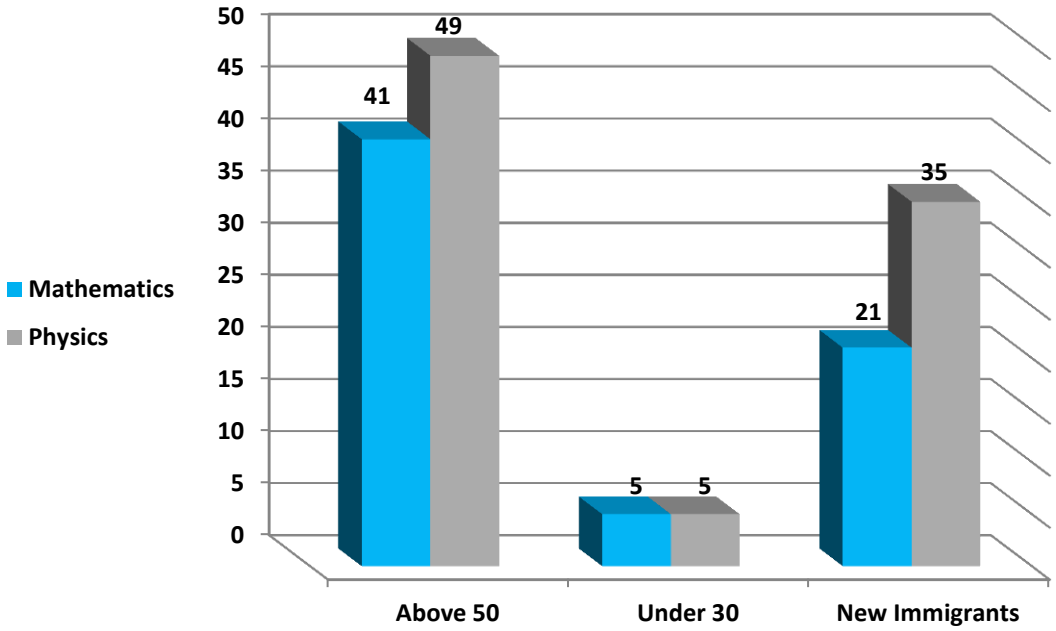



## MATHEMATICS AND PHYSICS CLASSES 2010 / 2014

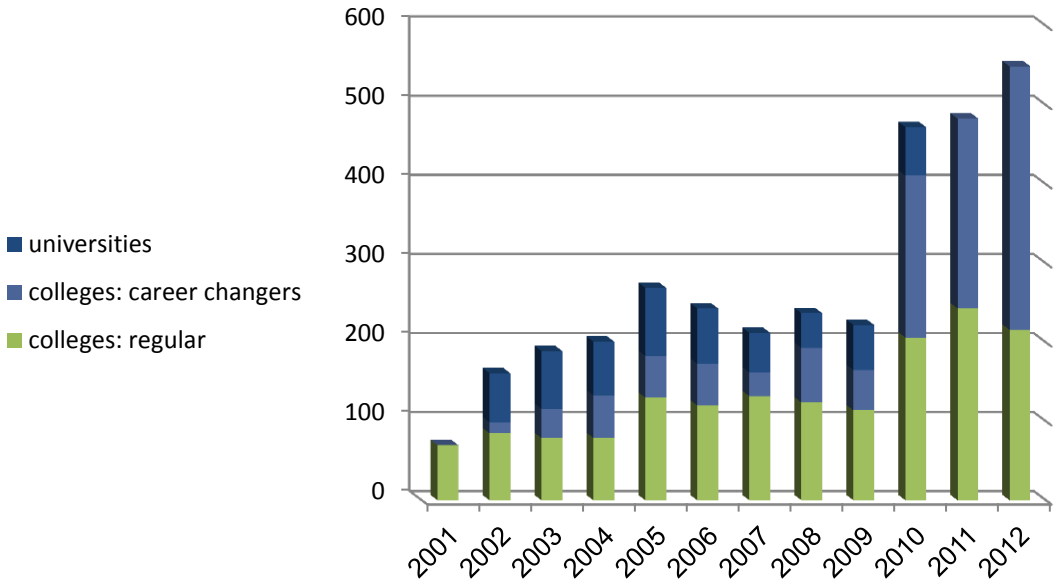



* In 2014 there are 1,502 high schools in Israel, of which 1,129 teach for the matriculation diploma

## EMERGING SHORTAGE OF HIGH SCHOOL TEACHERS 2009




## HIGH SCHOOL TEACHING STUDENTS OF MATHEMATICS 2001 - 2012



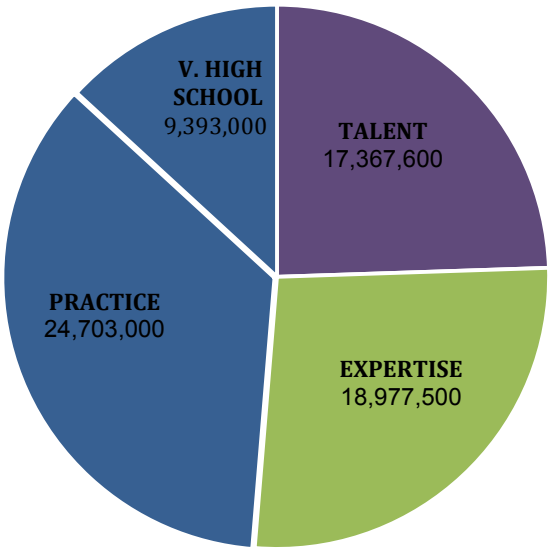

* We have yet to obtain the 2011-2012 data from the universities.

## THE TRUMP FOUNDATION IN NUMBERS
2012-2014

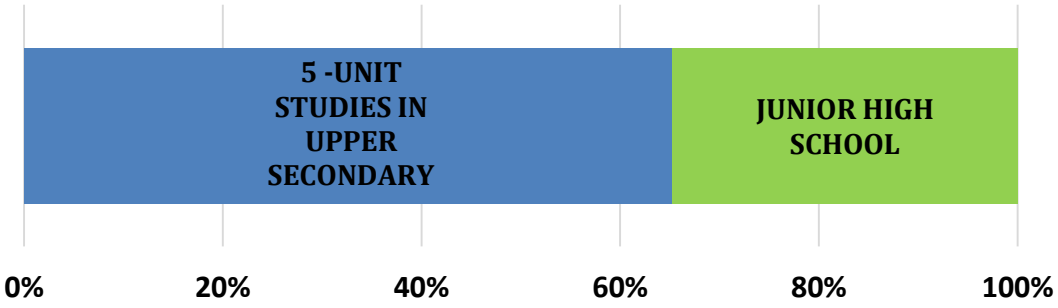
| | Approved | To Date* |
|---|---|---|
| **Number of Grants** | 81 | |
| **Grant Amount** | 70 million NIS | 26 million NIS |
| **Average Grant Amount (without Virtual High School)** | 770,000 NIS | |
| **Average Grant Duration** | 2.5 years | |
| **Schools in which Foundation Programs Operate** | 451 | 362 |
| **New Physics and Mathematics Classes Opened** | 100 | 30 |
| **Number of Students in New Classes** | 1,738 | 652 |
| **Graduates of Teacher-Training Programs** | 420 | 56 |
| **Teachers Staffing Foundation Programs** | 246 | 246 |
| **Teachers who have received Pedagogical Coaching** | 1,329 | 429 |
| **Teachers Taking Part in Professional Communities** | 350 | 238 |

*This data is based on grants approved between December 2011 and July 2014 and will be executed by 2017.

## ALLOCATION OF GRANT FUNDS BY STRATEGIC TRACKS (NIS)




## ALLOCATION OF INVESTMENTS BETWEEN JUNIOR HIGH SCHOOL AND UPPER SECONDARY SCHOOL



## RATE OF INVESTMENT DESIGNATED FOR SPECIFIC SECTORS, GENDERS, AND PERIPHERIES