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THE TRUMP FOUNDATION ADVISORY COUNCIL

Insights and Recommendations

13-14 November 2012

The Trump Foundation Advisory Council met in Jerusalem on 13-14 November, 2012. The purpose of the council is to consult with the Foundation about possible directions of action and operation, as well as provide feedback on its strategy and progress.

The members of the Advisory Council are Professor Lee Shulman (Chairperson), Dr. Abir Abed , Mr. Danny Bar-Giora, Mr. Shlomo Dovrat, Dr. Rachel Knoll , Professor Marcia Linn, Mr. Nickolai Schwartz, and Mr. Eyal Sinai . In addition, the foundation's chairman of the Board of Directors, Mr. Eddy Shalev, joined the discussions.

This was the first meeting of the council; it coincided with the end of the first year of the foundation's operation following its establishment in July 2011. To provide background information for council members, the foundation's staff prepared a detailed document presenting an updated account of the foundation's plans, including the issues and dilemmas facing it (see background materials – "[Strategic Directions – November 2012](#)").

Leading figures in education were invited to the meetings, including holders of key positions from the Ministry of Education; schools of education; teaching colleges; research and development institutions; operating organizations; school principals and teachers (see details in attached appendix). All received the background material and the open questions in advance and were invited to offer their feedback, comments, critique and suggestions.

The attached document was written by the foundation's staff and summarizes the main insights heard during the discussions, as well as written and oral feedback received before and after the meeting. We would like to take this opportunity to thank everyone who took the time to read, respond, and participate in discussions. Our esteemed thanks go to the council members for their dedication and special efforts.

BUILDING A COALITION-NETWORK FOR COLLECTIVE IMPACT AROUND A SHARED VISION

The Trump Foundation has chosen to focus its resources and expertise on the quality of mathematics and science instruction in Israeli secondary schools. This decision was based on the assumption that this is an important and pressing need that requires a comprehensive response and that positive results can be achieved within a reasonable period of time.

Most speakers at the meetings agreed with the need to improve the teaching of the sciences, but diverse opinions were heard regarding why this issue specifically is being promoted. One council member asked, “What will be solved by doubling the number of five unit mathematics and science matriculation graduates in Israel?”

Listed below are some of the points put forth by speakers. These points complement each other and support the need to invest in strengthening scientific education, extending the circle of excellence, and promoting effective teaching in the schools:

- Israel’s security and economy is based on science and technology; therefore, there is a national imperative for the country to maintain its comparative advantage. Low achievement in scientific education puts the “Start-Up Nation” at risk – a “national emergency plan” is required to rescue the study of the sciences in Israel.
- Any modern country in the 21st century requires that at least 20% of its citizens possess high levels of mathematic and scientific knowledge and skills. Studying these subjects develops rational thought and demands intellectual effort and the development of independent learning skills – now is the time to expand the circle of excellence in Israel.
- The age of technology and globalization requires each citizen be a “learner of science”; that is, each citizen must acquire knowledge and skills that will grant them the means to manage their lives in a modern society, as well as their households, and their work. Students studying advanced mathematics and sciences are a kind of locomotive whose job it is to draw all Israeli students with it– since they are all in need of these skills.
- Israeli schools are based on an educational approach that is inconsistent with providing personal attention to the needs and abilities of each student. Mathematics and science courses especially suffer from this,

which leads to fewer students choosing these subjects and a high drop-out rate. A fundamental change is required, beginning with the sciences, based on the principal of adjusting teaching methods to accommodate the learning needs of each student.

- The “industrial” approach to education has created closed classes and one-size-fits-all teaching methods, with teachers taking on the role of assembly line workers. This approach is particularly problematic in mathematics and the sciences – the time has come to open the classroom door and return the rudder of education to teachers.
- Israel devotes much effort to success in matriculation exams, which are based on teaching a large quantity of material in a limited period of time. As a result, classroom teaching does not always extend to promoting understanding and inquiry – therefore the way in which learning goals are defined and measured must be changed in order to encourage in-depth learning and make it relevant to students.

During the discussions it became clear that while having diverse opinions is valuable, what is missing is a common vision that will inspire the recruitment of organizations, professionals, and the general public to joint action. Without a shared vision and identification with it, it is unrealistic to expect that the various parties involved in education will develop a common language and come to an agreement on objectives and measures.

While agreement on a vision is a necessary condition, not less important is the continuous dialogue surrounding it and close coordination between the various parties. The documents outlining the strategic direction of the foundation clearly show that it is aware of this and recognizes that, even with its resources, it cannot achieve systemic and lasting improvement by itself. Consequently, the foundation requires close cooperation, continual discourse, and agreement on various levels:

- In schools in which the foundation is involved, success will be dependent on the creation of a coherent “instructional system” that sets ambitious goals and allocates resources to mathematics and science studies; focuses on the progress of each student; and encompasses individual coordination among students, teachers, administrators, and parents.
- As for the professional community, the foundation must endeavor to compel organizations that receive foundation grants, as well as teacher-training institutions, to develop specific definitions and a common language regarding clinical teaching; to share their knowledge and

professional infrastructure with each other; and to adapt content, methods, and their staff to attaining these educational goals.

- In the philanthropic realm, a coordinated action must take place, in order to complement the foundation's work and to generate momentum in mathematics and science studies in Israel. This is even more urgent in light of the foundation's decision to focus on strengthening the quality of teaching in secondary schools.
- On the national level, the government; academia; local municipalities; the military; school networks; civil society; and schools must all agree to act together to promote the vision, goals, and measures. Until such agreement has been reached, there is a danger that each party will pull in a different direction, resources will be diffused, and many of these efforts will fail to create the desired change.

In light of these points, the foundation must decide if it can take upon itself the role of convener – gathering a group of stakeholders around one table to begin the process of defining a common vision. The vision must be formulated to evoke a sense of necessity and urgency; it should create accord, while at the same time evoke identification and coalition. The foundation should adopt an approach much like that of a "spider" – creating links; exerting pressure; and spinning a web of study, transparency and collaboration. It must give these activities high priority and recognize that while the success of the grants it awards is a necessary condition, it is not sufficient to set systemic success in motion. The foundation must recognize that networking has the power to create movement; momentum; sustainability; and real, strong, and broad influence.

FORMULATING A PRACTICAL DEFINITION FOR HIGH QUALITY TEACHING FURTHERING EXCELLENCE IN LEARNING

The foundation has set as its goal the expansion of the circle of excellence, measured by an increase in students joining advanced (five unit) matriculation tracks in mathematics and the sciences, staying in the courses, and successfully completing them. The working method the foundation has adopted to attain this goal is improving the quality of instruction in secondary schools.

The foundation's point of departure is that many students in Israeli high schools are capable of studying mathematics and the sciences at an advanced level, but for various reasons do not realize their own potential. The foundation must identify which students are members of this "second circle", what it is that they

lack, and what factors influence their choices and their chances of persevering in their studies.

The foundation should identify under-represented groups that may have genuine potential to be outstanding students. The council members found it interesting that in Israel this group is mainly composed of girls who have high achievement levels in middle school. In addition, attention should be paid to the many schools in the state-religious stream, which for various reasons tend not to teach the sciences in secondary school.

The foundation must take into consideration the fact that Israeli schools are not assessed on the basis of excellence and are not rewarded for the quality of their achievements. Schools in Israel devote themselves to increasing the number of their students eligible for matriculation certificates rather than increasing the number of students studying science at an advanced level and succeeding in their studies, not to mention increasing the extent of their knowledge and understanding.

Having said that, initial signs of change are discernible in a number of universities; some divisions of the Ministry of Education; and several municipalities, school networks, and schools that have set a high bar for excellence. Movement towards deeper learning is also expected in the planned framework for the 2015 PISA assessment, which can be used by the foundation as an indicator, since the definition of good learning in these tests will be manifested by in-depth learning, scientific thinking, scientific activity, transferability between disciplines, peer learning, and team work.

In other words, the foundation must clearly and explicitly define what it means by its stated goal of excellence, not only by depending on non-calibrated matriculation exam results. The general assumption is that the foundation should stress crucial in-depth learning skills. It should be noted that the council learned that matriculation exams are currently undergoing revision in this spirit.

After the foundation defines excellence in learning, it will need to clarify what it means by its stated goal of quality teaching. In the view of the foundation, quality classroom instruction focuses on the learning processes of each student. The foundation is obviously not interested in endorsing or advocating a specific method of teaching; on the contrary, it aspires for teachers to be able to choose from a variety of methods and adapt them to the individual learning needs of each student.

The foundation uses the term “clinical teaching” to describe its intentions, i.e. personal focus on students, assessment of student capabilities and needs, collecting and making use of ongoing data documenting student progress, creating a personalized program for each student and providing individual

feedback in real time. To fulfill this approach, schools will operate more like clinics and less like factories. Teachers will cooperate with each other from within a professional learning community that is focused on monitoring the “treatment” of each student by documenting teaching practice and utilizing data. During discussions relating to this topic, participants voiced a number of responses that portrayed quality teaching from different perspectives that deserve the attention of the foundation as it develops its definition of the clinical approach:

Some teachers and schools are convinced that the best and most practical method of teaching is to carry out ability grouping (for example, dividing physics students into four unit and five unit mathematics classes), rather than trying to teach them in heterogeneous classes. They maintain that many students, especially those of the "second circle", do better with traditional, frontal teaching that is more technical, leaving in-depth study and investigation to the more outstanding students.

In comparison, some researchers and teachers oppose ability grouping, maintaining that investigative learning is suited for all students since it is more relevant and interesting, as well as less competitive. They note that it is best to teach mathematics and sciences from an interdisciplinary perspective and combine subjects in a more interesting and modern way to motivate more students (both girls and boys), thereby extending the circle of excellence.

For this reason, the foundation must come up with a detailed definition of what it means by “excellence in learning” and “quality teaching” on the classroom and school levels, making specific reference to clinical teaching in mathematics and the sciences. Council members are convinced that, in contrast to the past, more technologies are available to facilitate assessment, adjustment of teaching methods, learning, and individual feedback required to implement clinical teaching.

DEFINING THE ROLE OF PHILANTHROPY IN THE EFFORT TO RECRUIT NEW TEACHERS

Because the teaching population of mathematics and the sciences is aging and many teachers are retiring, there is an ever-increasing shortage of new teachers to fill their shoes. To counteract this situation the foundation has set a goal of recruiting talented people to teach mathematics and the sciences in secondary schools.

During the discussions, it became clear that the Ministry of Education is very aware of this situation. Despite a lack of comprehensive data regarding the demand for teachers, it understands the urgency and has initiated and

encouraged the development of a variety of teacher-training programs, including those for people who want to make a career change from the academic world, the industry, and other special programs.

Though it was clear from the discussions that the Ministry of Education is taking the issue seriously, the government has not yet defined the shortage of mathematics and science teachers as a crisis or put emergency measures into place. Until comprehensive data is available to present to the government and the public, it is unlikely that the situation will be defined in those terms.

Most of the participants discussed university and college training programs, as well as special “alternative” programs (such as Teach First Israel). They drew a complex picture and the foundation will have to evaluate if and how it can integrate its activities into this picture in an effective manner:

- Academic freedom is enjoyed by institutes for teacher training even in their teacher-training programs, and the Ministry of Education has limited influence on the curriculum, training methods, and staff.
- There is almost no up-to-date data available from a human resources perspective on specific needs for teaching staff in schools, so there is little connection between supply and demand. Such data should be collected continuously and should inform the training programs accordingly.
- Training institutions do not feel that their programs are ineffective– they do not seem to be prepared to significantly raise their admission standards or adapt their programs and teaching staff to train their students for clinical teaching.
- New public opinion surveys in Israel show that teaching mathematics and sciences is especially attractive to people looking for a second career. However, there is disagreement over whether training programs developed for such candidates succeed in integrating them into the schools.

In light of the above, the foundation must carefully consider what role it can play in improving the situation and how it can best cooperate with the government in recruiting a new generation of mathematics and science teachers. The foundation must ensure that any training or development programs it supports uses a competitive process to accept only qualified candidates, is based on the clinical approach and practical content including documentation and practice teaching, is in line with empirical data regarding the learning progress of

students, employs a staff of experienced high school teachers, and includes a sizable component of in-school mentoring by senior “master teachers”.

INVESTING IN PROFESSIONAL DEVELOPMENT OF TEACHERS LEARNING FROM TEACHERS

The foundation has set a goal of developing the clinical skills of teachers of mathematics and the sciences. Experience and research from around the world reveal that no other investment in education yields returns as high as the professional development of teachers, though its fruit matures slowly and requires calibration and continuity.

During meetings the council held with teachers, their message was loud and clear – teachers are interested in learning by doing, rather than in theory; they are interested in learning from their own practice and that of their colleagues; and they are interested in learning about and within their own school environment.

Teachers learning from teachers (modeling) must focus on the learning outcomes of students by evidencing and documenting teaching and learning events. This is carried out by the teachers themselves in two possible frameworks – one consisting of teachers in the same school who work with a particular student or class; the other consisting of teachers who teach the same subject either in the same school or the region.

During the discussions, council members expressed the opinion that the foundation would have to ensure that any professional development program it supports include the following: the content of the program should be based on analysis of student work and learning progress; the teachers should observe each other in their classrooms and provide each other with feedback; the teachers should analyze together with their colleagues videos taken while they teach; and teachers should discuss possible solutions and ways to improve teaching and learning in the classroom.

The foundation should take into consideration that a number of building blocks for the clinical approach to professional development of mathematics and sciences teachers are largely missing in Israel and must be put in place in order to succeed. It is essential that the foundation weighs if and how it can assist in creating the following elements:

- A teacher training cadre made up of teachers who bring with them practical expertise, are adept in focusing on the learning of students, are familiar with monitoring and evaluating learning methods, and are trained to adapt teaching techniques to the needs of each student.

- An echelon of senior teachers (master teachers) who can educate teachers in their school, can serve as role models, and oversee school-based professional development processes.
- Content and tools fabricated from within teacher practice, including, among other features, case studies; video recordings; simulations; monitoring and analysis tools; methods of mentoring; and routine cycles of continual improvement.

The foundation may want to plan how to spread clinical models of professional development throughout the educational system to remain in use for a long period of time. To do so, during its second stage of operation the foundation may want to consider establishing an *Institute for Advanced Teaching* that will be used as a national center of expertise. Such a center would nurture a cadre of master teachers, develop the tools and methods for clinical professionalism, and continue to guide learning groups and professional communities of practice.

PROVIDING COMPREHENSIVE SUPPORT NETWORKS FOR IMPROVEMENT OF SECONDARY SCHOOLS (GRADES 7 TO 12)

The foundation has defined success as an increase in students choosing to study in the five unit mathematics and science tracks in secondary school and successfully completing the matriculation exam. This definition has until now led the foundation to concentrate most of its efforts on upper-secondary elective courses.

In contrast, most speakers during the council meeting said that the foundation should broaden its activities to include middle schools and act in a systematic and systemic manner in six-year schools (grades 7 to 12). This received wide support and was expressed in a number of different manners, which are listed below:

- Six-year secondary schools are one administrative, organizational, and pedagogical unit. They base their activities on the same teaching and learning approach and create a learning continuum through all the grades.
- Gaps widen during middle school because of large classes and diversity, an extensive curriculum, and the difficulty teachers have in being expert in all fields of the sciences.
- The foundation's ability to influence teachers and students in upper secondary schools is limited – teaching and learning are oriented

towards preparation for the matriculation exams, teachers are already experienced and effective, and there are too few students in a class.

- Schools in Israel are already satiated by external projects that come and go, leaving no lasting impact. Only actions originating from within the school and taking place in it and are based on existing resources, have a chance of being integrated into the system in a sustainable manner.

In this context, the assertion that it is not enough to recruit talented people to teaching and provide them with effective training took root and became stronger. It would therefore be essential to build support systems within the schools to facilitate quality teaching and learning. To do so the foundation must cooperate not only with bodies dealing with development and training, but in addition, and for the most part, with people thoroughly familiar with school life and the schools themselves.

An example of the extreme importance of being deeply acquainted with what happens in the schools is illustrated by issues brought up in the discussions by teachers and school principals. Some have the potential to significantly influence mathematics and science studies, and are listed below:

- Physics and mathematics students are especially sought after by the IDF and are constantly being summoned to the draft board for screening and assessment. As a result, they are unable to keep up with their course work.
- Schools compete among themselves for outstanding students. It is not clear what incentive a public school that is not allowed to practice selective admission has to increase its excellence, when outstanding students in any case leave it to attend private schools.
- Science subjects are frequently scheduled during the same period so that students must choose between studying physics, chemistry, and biotechnology. As a result, there is competition among teachers for outstanding students within the school.
- Regulations forbid having more than 18 (some say 24) students in a laboratory lesson, so it is impossible to have more than that number of students in a class.
- Teachers are remunerated according to the number of classes and hours they teach without any incentive to increase the number of students in

their classes. It is actually in small classes that they need to grade fewer papers and exams and can devote more time to each student.

- Because there are few class hours and extensive material to cover, the pace of teaching is fast and focused on the matriculation exams. There is no time for assessing progress, making it even more difficult to carry out investigative experiential learning.

Because of uncertainty about the optimal way to operate in middle schools and how best to create a learning continuum, a variety of recommendations were put forth. The foundation must examine if and how to act on them. A few of the more important recommendations are listed below:

- To establish, together with partners, a summer school program for ninth grade graduates before they enter upper secondary school. This will increase the number of students and eliminate the need to review old material when school begins.
- To forge local cooperation between schools in a network or school district so they can construct together an in-depth model of “school-wide improvement” that will be documented and distributed to other districts and schools in Israel.
- To concentrate efforts on the development of learning materials and teaching methods for middle school that will make learning these subjects interesting; challenging; relevant; and exciting, and will encourage students to continue in upper secondary school.
- To focus efforts on incorporating clinical teaching in large heterogeneous classes in the middle school by using a combination of innovative teaching and learning approaches, such as the “flipped classroom”.
- To focus on building sustainability in schools by developing the teaching professionals who already work there (for example, department coordinators) and relying on existing resources in the school.

The council members came to realize that the foundation should examine if and how it could cooperate in six-year schools beginning in middle school and lasting until the end of high school (grades 7-12). In this respect the foundation should devote continuous efforts on learning about school life and its influence on mathematics and science studies.

CONCLUDING ISSUES TO EMPHASIZE

- A. **Teachers first.** Council members complimented the foundation on its decision to involve teachers at key junctures in the foundation and in the Advisory Council, where the majority of members are teachers. Establishment of "the teachers club" to advise the foundation and including teachers in the projects supported by the foundation will stand the foundation in good stead. As a foundation that is convinced of the importance of quality teaching, the support of teachers is essential, as is relying on their unique practical perspective. The foundation still lacks data concerning mathematics and science teachers, and in general, is in need of information on their work and salaries, and should operate to acquire this data.
- B. **Collaboration.** The decision of the foundation to spread a positive message is both appropriate and critical – it is important not only to emphasize needs; difficulties; and deficiencies, but to rely on capabilities; resolution; and opportunities. The foundation's conviction that it is both possible and necessary to work with outstanding teachers in the schools, and that the Ministry of Education is run by talented professionals, who believe in their mission, is contagious. The foundation must continue on this path and strive for continued and close dialogue and cooperation with its partners.
- C. **Mathematics.** Council members believe that the foundation must concentrate now more on mathematics studies, which it has defined as one of its main goals. The rest of the sciences are based on mathematics, which is also a compulsory subject for matriculation, and so is taught to a wider extent and for a longer period of time than the sciences. Council members felt that there is a scarcity of data about mathematics studies, especially concerning the teacher shortage. It is not clear to what extent the lack of a mathematics curriculum in several grades affects mathematics studies, and the perspective of mathematics teachers is missing from the Advisory Council. Furthermore, the foundation must give thought to chemistry, which is extremely important

to Israeli industry, and suffers from most if not all the challenges faced by the other science subjects.

- D. **Measuring success.** This subject was not discussed in depth during the council meeting; however, there was some underlying criticism leveled at the foundation's over-reliance on matriculation exam results. It is advisable that the foundation considers, integrating MEITZAV (intra-school assessment of effectiveness and growth), TIMSS (Trends in International Mathematics and Science Study), and PISA results, especially if it decides to expand into middle schools. It must take into consideration the changes planned for the PISA exams, which will move them in the direction of investigative learning based on team work. Furthermore, since a goal of the foundation is to promote excellence through investment in quality teaching, it must develop measures to assess instruction, and thus be able to receive feedback regarding if and to what extent its activities promote the incorporation of clinical teaching skills.
- E. **Social networks.** The foundation must increase its efforts to integrate technologies in its operations. Specifically, it must weigh how it can harness the social networks in which its target populations are members. Around the world, and especially in Israel, social networks occupy a central position in human communication. During the council meeting members heard time after time about instances in which students study together in class Facebook groups and teachers use social networks to consult with each other.

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