Collective Impact in Israel

The Story of the 5x2 Initiative

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Introduction

The 5x2 Initiative applied, for the first time In Israel, the Collective Impact model. The 5x2 Initiative was implemented through an extended process of creating a network of partners of leading organizations from the public sector, the private sector, philanthropic foundations, and education NGOs (non-governmental organizations); in order to promote excellence in STEM education and build a unique partnership with the Israeli Ministry of Education.

The 5x2 Initiative achieved its goals successfully by creating public awareness of the issue of excellence in STEM education, but also by realizing one of its main tasks sooner than expected: the number of students studying high school mathematics at an advanced level. Known as "five units" in Israel, this advanced mathematics track doubled in size within four years, significantly in advance of the initial time frame posed by the 5x2 Initiative. [Figure 1].
In addition, the key partners share the feeling that this is a significant success. Partners note the extent to which their participation in the 5x2 Initiative was meaningful to them and to the future of the relationships between organizations participating in the network.

In this paper, we examine the conditions that made this initiative so successful, and the reasons for the development of an unlikely partnership, by narrating the story of the 5x2 Initiative and the systemic change it created.

The first part of the paper recounts the story of the 5x2 Initiative, from its inception until today. It reviews significant moments and junctures of decision making and emphasizes the process by which the relationship between the partners came to be. It will discuss the creation of a cross sector environment that made these relationships possible, and the changes of discourse regarding excellence in education it brought about. The second part of the paper is dedicated to the future directions of the 5x2 Initiative and to the dilemmas and challenges it is currently facing.
The analysis is based on material created and collected since the inception of the 5x2 Initiative in 2013 and in-depth interviews that were conducted in 2017 with twelve leading partners in the 5x2 Initiative. Among them, two were from the private sector, four from the public sector, four from education NGOs, one from philanthropy, and one from academia.

It is our hope that this paper and the insights it puts forward will be useful not only to actors operating within the field of STEM education in Israel, but also to organizations in other fields that would like to learn about this unique model of cross sector collaboration, which inspired the inception and application of the 5x2 Initiative.

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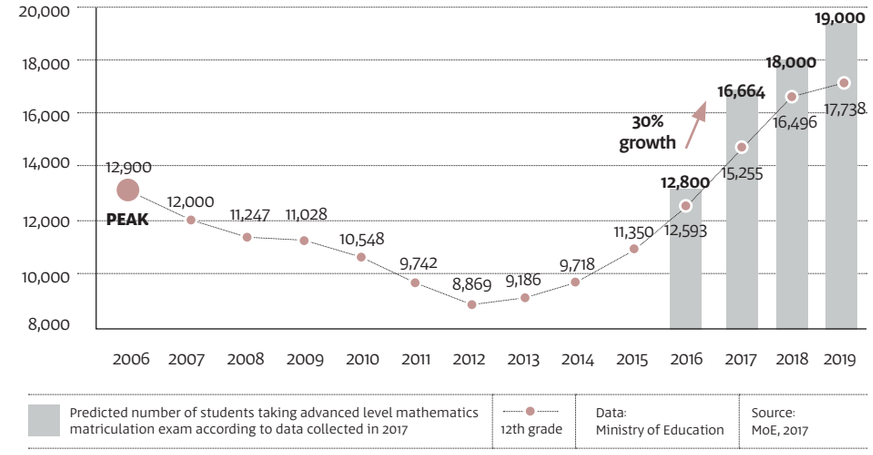
Predicted Number of Students Taking Advanced Level Mathematics Matriculation Exam [Figure 1]



The Collective Impact Model

In recent years, the Collective Impact model has become a key tool for social change and is employed by organizations and initiatives around the world (see: Kania & Kremer, 2011; 2013, Rom, 2015; Rom, Hurvitz & Tamir, 2012). The model offers a framework that enables stakeholders who possess diverse assets and perspectives to collaborate and promote solutions to complex social problems in various fields including education, health, community, and the environment. The Collective Impact model is defined by five elements that are necessary for the success of social change initiatives (Kania & Kremer, 2011):

1. Common Agenda - Collective Impact requires all participants to have a shared vision for change, one that includes a common understanding of the problem and a joint approach to solving it through agreed upon actions.

2. Shared Measurement Systems - Developing a shared measurement system of the ways outcomes will be measured and reported is essential. Collecting data and measuring results using a shared measurement system ensures alignment and accountability.

3. Mutually Reinforcing Activities - Collective Impact initiatives depend on a diverse group of stakeholders working together, encouraging each actor to undertake the specific set of activities at which it excels in a way that supports and is coordinated with the actions of others.

4. Open and Continuous Communication — Communication is aimed at developing trust and a common language among the participants.
5. A backbone organization - A neutral entity is appointed with the consent of all actors. The backbone organization serves the entire initiative — it facilitates, manages, shapes, accompanies, and supports the process.
On top of the five elements, the Collective Impact model emphasizes three necessary preconditions which must be in place before launching a Collective Impact initiative: (1) an **influential leadership** that has (2) a **sense of urgency** for change and willingness to support the need with (3) **adequate financial resources** (Hanleybrown, Kania & Kramer, 2012).

Since the model was conceived and formulated by the American consulting firm FSG (Kania & Kramer, 2012) many initiatives have employed the framework, though not without challenges. This is because working to connect various entities from different sectors that have not previously worked together often leads to competition and tensions arising from disparities between the parties, who may have cultural differences, varied needs, and diverse motives for action. The tensions tend to surface when the actors must reach joint agreements, make decisions, and coordinate collaborative efforts.

"We all have great programs, so why does the number of students taking advanced math keep dropping?"

The 5x2 Initiative was prompted by leading philanthropic and business organizations that promote excellence in STEM education: **The Eddie and Jules Trump Family Foundation, Rashi Foundation**, and **Intel Israel**[1] . The founding organizations were concerned about the alarming trend of high school students dropping out of STEM classes. Data collected by the Ministry of Education showed a steep decline in the number of students taking the matriculation exam in mathematics at the advanced level ("five-units" matriculation exam). While in 2006, 12,900 students took the exam, in 2012 the number reached a low of 8,859 students (see figure 1 above).

Many schools were closing their physics and chemistry majors, and there was a growing shortage of teachers in these subjects. The Eddie and Jules Trump Family Foundation, Rashi Foundation, and Intel Israel began discussing the significance of the data; not only did they recognize that there was a problem, but they also came to understand that none of them could solve the problem by acting alone. This sentiment is reflected in a statement made by one of the partners from the private sector:[2]

For the past 20 years or more, the company has been investing heavily in education... teacher training programs, student training programs... and indeed it was all very good. When I joined this endeavor, I asked myself, "What have we changed in the education system?" We have changed things on the micro level, but we have not changed anything on the macro level- that is we were able to change a teacher, a student. I do not underestimate the influence of this; it is very, very important, but for an organization that invests so many resources in education every year, we ought to produce an impact on the macro level, not only on the micro.

Understanding the urgency of the problem on the one hand, and the need to initiate a broad, systemic process on the other, percolated within the three organizations, serving as key factors in establishing the 5x2 Initiative.

In March, 2013, representatives from the three organizations approached Sheatufim, a non-profit organization that specializes in designing and leading cross-sector dialogue using various methodologies. The suggestion presented to Sheatufim's team was to learn the Collective Impact model developed by FSG (Rom, Hurvitz, & Tamir, 2014) and examine the feasibility of implementing it in Israel as part of the effort to advance excellence in STEM education. Sheatufim accepted the challenge and initiated a threefold learning and planning process: (1) studying the Collective Impact model and its application to issues of STEM education in the United States; (2) mapping the actors in the field of STEM education in Israel through meetings with various stakeholders and, (3) engaging in an in-depth study of the problems in STEM education in Israel (Manny-Ikan & Rosen, 2013).

At the end of a 4-month long learning process, the team at Sheatufim assessed the main partners' readiness for the Collective Impact initiative. It appeared that the crucial criteria were met: (1) there was an influential and committed leadership in the lead organizations; (2) a shared sense of urgency concerning the problem as evident by the readiness of diverse actors in STEM education to undertake a long-term, cooperative process; and (3) the initial financial resources required to begin the process. In collaboration with the group of leading organizations, it was decided to initiate a national, cross-sector campaign applying the principles of the Collective Impact model to achieve focused and measurable results that would increase the circle of excellence in STEM subjects. It was also decided that Sheatufim would be the backbone organization for the initiative (for more on the value of backbone organizations see: Turner, Merchant & Ellen, 2011).

The First meeting of the network: Excitement accompanied by question marks

The 5x2 Initiative was launched in July, 2013 at the Hebrew University of Jerusalem Edmond J. Safra campus at Givat Ram. The meeting was attended by an impressive forum of about 60 representatives from leading organizations including: private (mainly high-tech companies); public (Ministry of Education, Ministry of Defense and the IDF, municipal authorities, and representatives of teachers and schools), and what we call "the third sector", (NGOs and educational organizations, school networks, science museums, and philanthropic foundations), as well as academia, including universities and teachers' colleges. The meeting, which was held in the presence of then Minister of Education, Mr. Shai Piron, was remembered by many partners as a significant milestone. In particular, they recalled the excitement that emerged from meeting with such a large, varied network of partners for whom this issue was important. Participants felt the festive atmosphere and enthusiasm. At the first session, the "rules of the game" were defined that would accompany the 5x2 Initiative throughout the later stages, and contributed to the building of dialogue. These rules dictated the creation of an "enabling space" for everyone, especially for organizations whose work was related to the promotion of excellence in STEM subjects, and who were invited to join the partnership to bring their expertise and unique experience. This collaborative atmosphere was created as a place where everyone could express their professional opinion equally, as explained by one of the partners from a philanthropic organization, in his report:

"In the first workshop with the Minister of Education, the founding group might have decided that everyone would give an opening speech. These are not people who lack ego. Yet, deliberately we were all ordinary participants, to the point that the Minister of Education said "I'm going to sit with you; I came to learn. It really was a round table, here the Minister of Education and a teacher from Metulla [a remote peripheral city in the north of Israel] get the same air time."

At this meeting, the partners began the process of developing a common agenda and formulating the joint platform. This was accompanied by excitement and positive energy, but also by question marks and suspicions regarding the divergent motives of the various organizations. A major concern was the extent to which the Ministry of Education would be involved as a key player, and the potential for turning good will into practical action, as one partner, an educator, put it:

"The first meeting was mainly a declaration of a desire to promote STEM education... and I must say that I left with a good feeling... but it was not at all clear that the Ministry of Education was with us and without the State we could not do anything... The experience at the first meeting was unclear, there weren't enough top-level educators saying, "We are with you..." My experience was of a discourse disconnected from reality, in which industry representatives were aiming at something that would not have an impact... I had the feeling that it was not going to lead anywhere... We were presented with the Collective Impact Model but I did not understand what it was, so the initial experience was nice but I was sure the Initative was going to dissolve. That's how I remember the beginning."

The main outcome of this meeting was the joint definition and vision for the 5x2 Initiative agreed upon by the various stakeholders. The vision formulated then has accompanied the Initiative ever since; it states:

> By 2020, Israel will be among the top fifteen countries in the world based on the quality of excellence in STEM education, and will be in a position to leap forward as the second quarter of the 21st century begins. High school students from all sectors and strata of the population, will exercise their right to study STEM at a high level, thus opening up opportunities for a life full of success, prosperity and contribution.

At this meeting, it was also decided to establish a steering committee for the 5x2 Initiative, which would include representatives of the philanthropic and business sponsors of the Initiative, representatives of leading educational and academic organizations, and teacher representatives.

From the outset, there were differences in the motivations that led the various partners to join the 5x2 Initiative. In a deeper sense, these differences highlighted the diverse worlds from which the partners came, as well as the history of their relationships. The main motivation of the actors from the private sector emerged from their sense of emergency in the face of a growing shortage of engineers and professionals in the technological fields needed by the Israeli high-tech industry. The private sector's leadership clearly understood that a long-term solution is required, and therefore the aim should be to increase the number of students choosing STEM tracks. These students would be able to integrate into the high-tech industry in the future. Within the private sector, most of the actors had previously been involved in some form of educational work for STEM excellence, which is also related to the corporations' desire to contribute to society and the community, according to the principles of corporate responsibility. Although excellence in education is not the core business of these companies, their sense of urgency and need for engineers on the one hand, and identification with the social and educational vision of the 5x2 Initiative on the other, led to the extraordinary commitment and involvement of private sector organizations in leading and promoting this Initiative. One of the key points in consolidating a joint agenda was the decision to keep the 5x2 Initiative focused on the education system while not stating explicitly that it will aim at increasing the number of engineers. This decision clarified the significance of reaching an agreed-upon agenda among different stakeholders. The "third sector" educational organizations that joined the 5x2 Initiative had many years of involvement in efforts to promote STEM education excellence in Israel; **indeed** this is their core activity. With the 5x2 Initiative, these organizations continued to promote the issue throughout Israel, in primary and secondary schools, in formal and informal education.

"Third Sector" organizations in the partnership included non-profits and educational organizations, educational networks, and science museums. In addition, colleges and universities participated in the 5x2 Initiative; higher education institutions are, obviously, involved in science education both in the context of the training of science teachers, and through research and teaching the sciences themselves. Among the "third sector" organizations, it is important to distinguish between the philanthropic organizations who support civil society organizations and enable their activities, and the civil society organizations that implement various educational programs in the field. The activities of the latter are heavily influenced by the strategic directions that orient the philanthropists.

There was another partner whose entry into the network was essential for success: the public sector, as represented by the Ministry of Education, teachers, and representatives of municipal education departments. Although the Ministry of Education expressed desire to be a partner from the outset, it was not initially clear how involved it would be, and the extent of its willingness to take responsibility for the project, and be significantly involved as it's leader. At the same time, it was clear to all of the partners involved that the full commitment of the Ministry of Education was essential if any progress was to be made.

The various organizations that had worked alongside the Ministry of Education for many years understood its power and importance, and thereby welcomed its part in the partnership. However, this understanding was accompanied by suspicion, criticism, and fear resulting from years of working together, and the substantive differences between the partners due to their disparate perspectives of the field.

The disparities between partners were also evident surrounding the question of excellence in STEM education, and the reasons for its promotion. This question has accompanied practitioners in the field for many years, and they have developed many different approaches to deal with it, most of which were brought to the table by partners in the 5x2 Initiative. Roughly, these approaches can be mapped along a scale between two extremes, although it is important to note that most of the partners moved dynamically between them. At one end, we can identify the "pipeline" approach, which contends that students' excellence in STEM subjects is a means to ensure their professional and economic future. Those who hold this approach seek to act within the existing discourse in the labor market, which assumes that technological professions will continue to lead the Israeli economy and that STEM education broadens horizons in social mobility and future income for students. One of the partners from the private sector described his goals for motivating high school students to study mathematics as follows:

"There is a great deal of misunderstanding about what high-tech is and what it means to be part of the high-tech industry, which stems from all kinds of movies or fantasies that in this business you can just "make a killing" overnight... We wanted to show that it is necessary to sweat and invest effort to achieve things that do not come easily, especially in math, physics, and computer science. The second goal is to turn them [the students] into engineers, and inspire them to be part of something, to create a foundation, basis, and to encourage them to invest in their studies because if they don't see how they will benefit from STEM subjects, why get involved in them at all?"

The "pipeline" approach reflects a deeper cultural assumption that success is determined by the accepted standards of the current socio-economic elite in Israel, i.e., such as serving in elite IDF units, and then finding work in the high-tech and technology industries. Moreover, this approach assumes a hierarchy between science and the humanities, as reflected in the assumption that compared with other fields, technology subjects require a greater investment. This position was shared by a number of respondents who argued that studying mathematics adds substantial weight to the student's social capital, because society perceives students of these subjects as smarter and more successful. For example, an educator, a key partner in the 5x2 Initiative, commented:

"If a child is outstanding in mathematics, they will say that he is smart. If he excels in Bible studies, they will say that he excels in Bible studies... Math has value beyond the subject itself. It gives the child a broader sense of being capable."

At the other end of the spectrum, we identify the "springboard" approach, which considers STEM studies a tool for cultural expansion, and for the inclusion of science within a wide cultural context. Those who hold this approach seek to expand and even challenge the existing social discourse, which differentiates between science and culture, making science unattainable and even abhorrent. In broad terms, some spoke of "raising scientific capital", a concept that refers to the tools, experiences, and resources of science that are accessible and acquired throughout life, and in different areas of life, not only in school (Archer, Dawson, DeWitt, Seakins & Wong, 2015). According to this approach, the motivation to learn science should come from an internal sense of interest, curiosity, and pleasure. For example, one partner in the 5x2 Initiative from an education NGO described the Initiative's goal as follows:

"The goal is ultimately to encourage an increasing number of students to choose to study science because it is important for them as future citizens, it opens up many professional opportunities, and gives them tools that will help them in any future field of work. It expands their personal abilities and makes them better citizens because they can make more informed decisions... I don't want more students to choose to study science to win the Nobel Prize or return with a medal from an international Olympics — but rather so it will become part of them, it will be part of their culture and education... science is part of the culture."

In concrete terms, some referred to STEM education as helping students expand their intellectual repertoire, encouraging them to excel, and to fully realize their potential. Those who hold this approach view STEM education as a tool for transforming students into better citizens (not necessarily better engineers), as described by one of the partners from an education NGO:

I always talk about the personal places... [and about] human excellence. My value-based approach asks how I relate to my environment, not only to myself. If I have a friend who has difficulty in math, I will help him in school or accompany my graduate in whatever he does, whether on the tenants' committee or political action at the highest level... I want to see them excel in everything they do.

Formulating the Joint Platform and the Partnership's Focus

The differences between the various approaches described above were expressed more strongly in the discussions held during the initial meetings of the 5x2 Initiative. These discussions were devoted to the formulation of the joint platform, the first milestone in building a partnership based on the Collective Impact model. After defining the vision at the start-up session, the steering committee held several meetings to define the joint task and the boundaries of the 5x2 Initiative (Hurvitz & Alon, 2015).

After a complex process that lasted six months, the partners established mutual trust and were able to define the joint mission of the 5x2 Initiative, as follows:

> Our mission is to double the number of students' successfully studying and demonstrating research and higher order thinking in the fields of mathematics, physics, chemistry and engineering in Israeli high schools. Within ten years, at least 20 percent of students in each class-year will meet the national and international standards of excellence.

The vision and joint mission statement combine a clear definition of measurable indicators of success for STEM excellence, and emphasize that the essence of the 5x2 Initiative is to expand opportunities for students through STEM education. The text of the joint mission reflects the decisions made by the steering committee regarding the boundaries of the 5x2 Initiative: focusing on mathematics, physics, and chemistry, where there was a clear decline in the number of students excelling in these areas, as well as a shortage of teachers; and focused on middle school and secondary school students only.

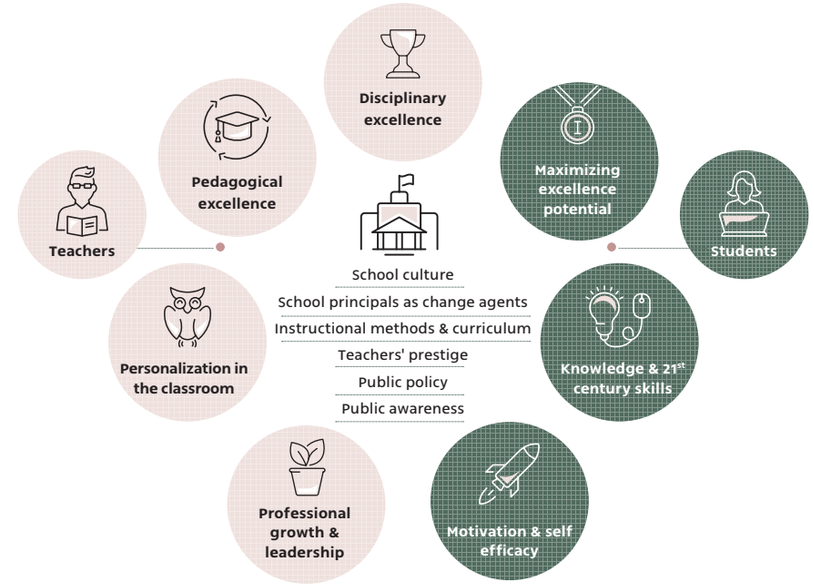
According to the partners, the process of building consensus and making decisions while defining the joint task and setting boundaries for the 5x2 Initiative involved lengthy, in-depth discussions that sometimes seemed tedious and lacking a clear purpose. Some were concerned that the Collective Impact model, which requires the sharing and building of agreements between a range of stakeholders, would be cumbersome and not accomplish its purpose. Deciding on boundaries for the Initiative was a particularly complex and controversial process. Some of the partners saw the decision to focus the activity on formal, secondary education as something that could limit the promotion of STEM subjects at younger ages, and also limit the possibility of stimulating interest in science in other strata of society. Others felt that without a clear focus on a particular age group and defined subjects, it would be impossible to expect significant short-term results. Despite the disagreements and harsh feelings that accompanied this series of meetings, it seems that the joint vision, as finally formulated, was indeed valuable for all partners, and it has accompanied the 5x2 Initiative ever since.

It should also be noted that the process of formulating the vision enabled the various partners to get to know each other, discuss disagreements and differences in perception, and reach deeper insights into the question of STEM excellence. This was a significant stage that laid solid foundations for the 5x2 Initiative's work, and demonstrated the importance and centrality of the joint agenda component of the Collective Impact model in general. Beyond that, defining the shared vision reinforced the recognition that the issue of STEM education is a matter of major national importance, and contributed to the dedication and commitment of the partners.

Overall, the formulation of the joint platform of the 5x2 Initiative was an evolving and dynamic process, which lasted more than a year. During 2014-2015, and following the formulation of the vision and the joint mission, more processes of thinking and development were undertaken. These processes were aimed at elaborating and refining the joint platform and designing the Intiative's roadmap to expanding the circle of STEM excellence students. This roadmap clarified the elements deemed critical to successfully expand the reach of excellent STEM education. It was jointly developed by working groups composed of representatives from the partner organizations. They took part in the multi-party effort by bringing their professional knowledge and expertise, and by relying on existing research data. During the final phase of this effort, academic experts evaluated and validated the roadmap.

The roadmap elaborates the stages that are essential for the development of STEM advancement for students and teachers, and anticipated results. In addition, the roadmap presents the conceptual framework for the development of a shared measurement system with indicators that measure the progress made by the 5x2 Initiative. In hindsight, the roadmap facilitated the creation of a common language and assisted the organizations to place themselves in relation to the broad frame of activities, and hence focus their own activity.

Roadmap to Expanding the Circle of STEM Excellence Students



[Figure 2]

The Regulator Takes the Lead

During the first year of building the joint endeavor and recruiting partners, many organizations increasingly called for the Ministry of Education to lead the project and plainly state its support. Repeatedly, strong statements were heard that the joint mission could not succeed in achieving its goals without Ministry support and leadership. Therefore, it was decided that the 5x2 Initiative would devote the first year to dialogue with the upper echelons of the Ministry of Education: the minister, Shai Piron, the newly-appointed director-general, Michal Cohen, and other senior officials. Indeed, after several meetings in which they learned about each other and explored how they could work together, the sides reached a shared appreciation that a joint effort by the 5x2 Initiative and the Ministry of Education held great potential to generate systemic change.

In March 2014, the director-general of the Ministry of Education issued a statement that the Ministry accepts the joint agenda set by partnership, and will join the 5x2 Initiative as the leading partner.

Two months later, in May of 2014, a year after the 5x2 Initiative was established, the Ministry of Education launched the "Math First" national program to encourage an increase in the number of students studying advanced mathematics (i.e., at a "five units" level). In addition, the Ministry appointed Mr. Mohana Fares, who was, at the time, Supervisor of Education for the Druze sector, to take responsibility for leading the program on its behalf. Both decisions were of great importance and shaped the future of the 5x2 Initiative. The program itself was launched in the 2014-15 school year, with an investment of approximately NIS 15 million, which was allocated to provide additional reinforcement hours in about 100 schools that responded to a call from the Ministry. In addition, the money was allocated to strengthening the quality of teaching in the field of mathematics.

In light of the Ministry's decision to focus only on mathematics during the first stage, the steering committee of the 5x2 Initiative discussed the significance and implications of this focus. There were those who objected, and saw the focus on advanced mathematics as a narrowing process that was inconsistent with the extensive cultural and educational change necessary to strengthen STEM excellence. Partners who were closer to the "springboard" approach wanted to see a broader change, dealing with a variety of subjects aimed not only at high schools, with their emphasis on matriculation exams, but also at middle schools and the cultivation of wider bases of knowledge and skills.

Other voices in the 5x2 Initiative argued that the focus on mathematics would be a good foundation for initiating systemic change, and that concretizing goals and indicators of success would create clarity for the partnership network. After discussions in the steering committee, it was decided to support the decision made by the Ministry of Education and help realize the goals of the Math First program. Despite the differences of opinion, the convergence of the 5x2 Initiative around one focused goal was, for many partners, a positive turning point in the process, as one partner, an educator, explained:

"In many cases, the deeper one goes, the more it spreads, and what happened here is quite the opposite, the goals became clearer and defined as the process progressed. The focus on math made it possible to make a move that would yield results, if there had been something lukewarm here, it would not have taken off, and it was also part of the strategic discussion... We decided that mathematics would be only the first stage..."

As evident in this quote, deciding to begin with mathematics after extensive discussion of various perspectives, made it possible to focus the efforts, while maintaining the broader picture of change that the 5x2 Initiative aimed to generate.

Many partners noted that the appointments of Michal Cohen as director-general of the Ministry of Education, and Mohana Fares as director of the project on behalf of the Ministry were a positive turning point in the Initiative. Both steps were active reflections of the Ministry's decision to join the 5x2 Initiative in a substantive way and create joint operational mechanisms. They were augmented by the director-general's direct statement that the Ministry would take sovereign responsibility for the 5x2 Initiative, which she made clear at the first meeting she attended. Everyone remembered and mentioned how she told the partners: "Let there be no confusion, the Ministry is responsible and must take responsibility for the process." The presence and position of the director-general created substantial mobilization, a sense of possibility, and the opportunity for a truly significant advancement. Other officials in the Ministry of Education expressed the same position, as Mohana Fares stated:

"I remember asking, in the initial stages, how much the high-tech companies would pay, but very quickly I understood that they do not have to pay, that is the role of the state. I understood that they have other roles in the partnership. Yes, they give money — but their money cannot and should not run the program... Having students with a good level of physics and mathematics is the responsibility of the state, otherwise the state crumbles."

The Ministry's assumption of responsibility sharpened the message that the 5x2 Initiative and its principles of action were not promoting private interests, but rather were concerned with the public good, and intended to promote the full realization of Israeli students' capabilities. There was broad agreement that the role of the network is to create complementary processes and programs that support the goals of the national program.

After the parliamentary elections in March, 2015, Knesset Member Naftali Bennett was appointed Minister of Education, and immediately put STEM studies at the top of his agenda. The new Minister of Education saw great value in the 5x2 Initiative network and invited its steering committee to serve as a publicly recognized forum that would accompany the national "Math First" educational program. Following his decision, Mr. Bennett initiated policies to enhance public awareness of the issue and promoted changes within the field of STEM education. In August of 2015, the Ministry of Education announced the National Program for the Advancement of Mathematics, and allocated NIS 75 million for the program, which formed the foundation of its budget.

Additional significant organizational steps were taken by the Ministry, including the opening of approximately 100 new math majors in high schools where advanced mathematics had not previously been taught, an additional 15,000 teaching and reinforcement hours, broadening the accreditation and training of about 200 teachers to teach the advanced level, funding for mentoring projects, and more. In addition, significant changes were made in order to encourage students to take the advanced level matriculation exam in mathematics. The policy changes consisted of, among other things, an increase in the number of bonus points added to matriculation grades in the university admissions process, so graduates who took the advanced level exam in math would have 35 bonus points added to total grade-point average. All of the leading Israeli academic institutions supported this decision. In addition, the Ministry decided to create a safety net for those who did not pass the advanced level matriculation exam ("five units" level), making them eligible for matriculation with four units of mathematics rather than three. Finally, in order to promote this policy within municipal authorities, emphasis was placed on increasing the percentage of students eligible for high-quality matriculation certificates, which includes an advanced level exam in mathematics, and not limited to the percentage of students entitled to a matriculation certificate in general. This change was of great importance because these statistics constitute an important basis for formulating municipal educational strategy and encourage municipalities to focus efforts on cultivating excellence and the quality of the matriculation certificate, instead of getting the certificate in itself.

The Ministry of Education recognized the value of leading the National Program for the Advancement of Excellence in STEM Education in conjunction with the 5x2 Initiative. This partnership was not anchored in a formal agreement but rather based on the shared recognition that the various partners of the 5x2 Initiative have an important role to play in inculcating focused messages, and creating complementary, supportive processes in the field. In addition, the space for discourse, learning, and joint action among member organizations in the network of partners created and managed by the 5x2 Initiative was seen as a vital, important space for the continued implementation of the national program. The system of trust built between representatives of the organizations and of the Ministry of Education during the first two years of the Initiative's operation created a broad, fertile foundation for open dialogue and cooperation when implementing the actions within the education system.

In this context, it is important to note that from the outset, the 5x2 Initiative was guided by an approach that called for working in cooperation with the Ministry rather than apart from it or against it. The steering committee and Sheatufim team led a clear line, which stated that pooling the forces of representatives from the three sectors - public, private and social - under the leadership of the Ministry of Education, was the only way to successfully create policy change, with direct long-term implications. Therefore, it sought to deepen the shared discourse, joint action, and mutual trust with the Ministry of Education. There was broad agreement among the partners that this approach should be promoted, even if it slowed the pace or required compromises along the way. However, this approach was not self-evident, since many social change processes take place through struggle, often by forming a coalition opposing the sovereign (Ben David & Rubel-Lifshitz, 2018), as one of the partners from an education NGO explained:

"I am involved in other endeavors in which the Ministry of Education is disparaged, and where people are condescending towards it; but in this project there was something very respectful... everyone's together, that's the style, it's all about the atmosphere in Sheatufim, the work concept, the trust, the values, and many things that made it diftferent.."

In the current case, the approach taken by the 5x2 Initiative was based on the assumption that when the sovereign takes responsibility and leads, other partners in the Initiative must form a support system that enables the Ministry to implement the national plan. The Collective Impact model emphasizes the importance of open dialog and continuous communication (Kania & Kremer, 2011). This form of communication facilitated trust building and understanding among the various organizations and the Ministry of Education, as described by **Inbar Hurvitz**, the 5x2 Initiative's director from Sheatufim:

"From the outset, we came with a positive attitude towards open and honest cooperation with the Ministry, but it took time to create a cooperative spirit within the entire network. The Ministry's representatives brought a true spirit of openness and dialogue, and we saw how the cynicism and skepticism of the various partners gradually diminished. It's not that they completely disappeared, but something different happened in the room, and the dialogue was characterized by patience, openness and willingness that facilitated the joint action."

Senior officials within the Ministry of Education testified to the strength of the partnership that was built. The director-general described the Ministry's work alongside the partner organizations:

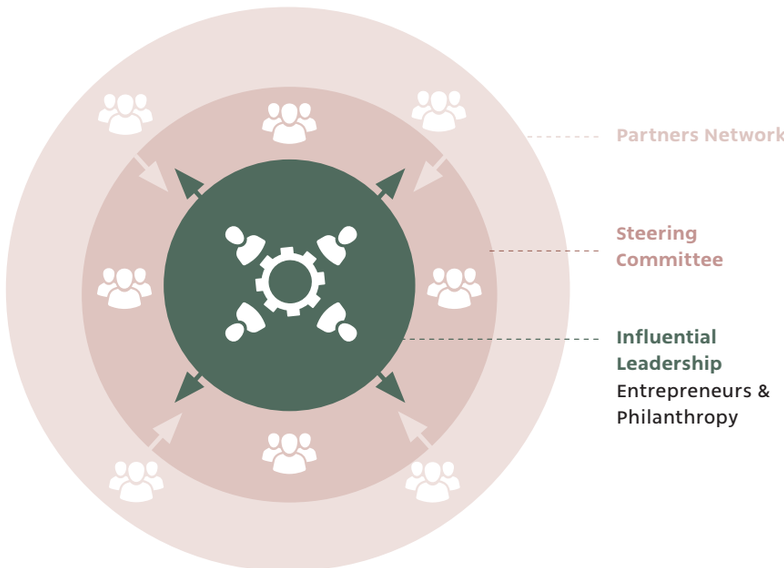
"In my humble opinion, the success of this process was due to the fact that the Ministry took hold of it with both hands, and connected with the partners. I don't see how it would have been possible to do it differently [the partners without the Ministry] because, like it or not, [the Ministry] is the regulator, the sovereign. The Ministry of Education is in charge of the education system. At the same time, the beauty of the story was that we also understood that there was a lot of strength in cooperation. Each of the partners contributed according to their strengths — the integration of organizations supporting the teaching and the teachers, the engineers, the teachers' communities... There was joint, systematic work.

The words of the director-general reflect the sovereign's clear assumption of responsibility and leadership, along with its recognition of the essential nature of the partnership with the other parties, who contribute — in her words — different, varied strengths. As she explained, this combination led to the 5x2 Initiative's success.

Multiple Partners – Different Worlds

Beyond the gaps in the perception and motivation that the partners brought to the table, there were also differences in practices, culture, and jargon of people coming from different spheres of activity (business, public, and social). The partnership system consists of three circles: (1) the influential leadership, i.e., the entrepreneurs who were also the main funding sources for the initial stage of the 5x2 Initiative and for the incorporation of Sheatufim, (2) the steering committee of 15 partners representing the various sectors, and (3) the extensive circle of partners in the network, representing several dozen organizations from all sectors. The steering committee was appointed to provide strategic leadership for the 5x2 Initiative and the decision-making processes that directed the focus of the Initiative and its methods of operation. The steering committee met quarterly, and the discussions were chaired by the backbone organization Sheatufim .The committee reached strategic decisions regarding the joint task, and defined the boundaries of the Initiative, through in-depth discussions and consensus-building.

Circle of Partnership - 5X2 Initiative



Source: Ben David, 2017

[Figure 3]

At the beginning of the process, the cultural differences and disparate world views dividing the diverse array of partners were prominent. For example, one striking difference in the early stages was the way people from the high-tech industry spoke a language of products and expected immediate outputs, which was not customary for the other partners. One business partner said:

"In many cases I was exposed to a work that is extremely different in its conduct and style from what we know... We (in the industry) are used to working with immediate outputs... the work pace is very fast, and here [at the Initiative] it was, well, 'we'll meet and see in another two months' [referring to the tracking on missions]... That's not something we do... it's totally unfamiliar."

Conversely, it was important for "third sector" partners and educators to emphasize the process, and some clearly stated that they disagree with frequent measurement, arguing that it might harm the educational process, as one educator explained:

"Some educators say that measurement destroys everything [referring to the pedagogical process]... My approach is that we need balance in everything we do in life."

It was evident that the dynamics between the partners reflected, at least in the initial stages, the adherence to the "familiar" roles played by civil society and the business world, and it took time to establish relationships and build trust. For example, one partner from the private sector said that she initially felt that partners from the education sphere questioned her motives, and did not recognize her potential contribution to the educational discourse:

"I remember that during the first meetings, every time I opened my mouth to say something... someone would jump up and say, "What are business corporations doing here? We are here to talk about education, we are pedagogues, we are teachers, and we studied education. What does the business sector have to do with it?"

On the other hand, representatives of civil society did not always understand their own position and weight in the discourse vis-à-vis the initiators who brought money and resources into the Initiative. However, as the civil society and private sector partners became better acquainted, the complexity beneath the dichotomy was gradually revealed.

Specifically, an understanding was reached that the private sector partners had joined the 5x2 Initiative out of their broader civic identity and social agenda. As described by one of the partners from the philanthropy sphere:

"[There was] suspicion based on unfamiliarity [among the partners]...relating to a person from the high-tech industry as someone interested in commercializing, a capitalist who wants to measure... or the Ministry of Education as burdensome, corrupt and bureaucratic. But then you discover that the high-tech representative was a teacher for 30 years before going into high-tech, and it gets deeper."

As the process progressed, trust was built among the partners, a common language was formed, and the sense of partnership around the goal was strengthened. Many partners saw these achievements as the result of two main factors: clear leadership and action mechanisms in which a variety of stakeholders participated (such as the steering committee and the working groups), and the role of Sheatufim as an objective and professional backbone organization.
The Collective Impact model emphasizes the existence of a backbone organization as a necessary condition for the success of a Collective Impact initiative. With a separate organizational infrastructure, and a dedicated professional team for leading the partnership, the backbone organization is a unique player in this model, differentiating the Collective Impact model from other collaborative efforts in the social field. The backbone organization is an impartial body that earns the trust of varied stakeholders; its role is to design, manage, accompany, and support the process. The backbone organization must reinforce the various components of the process and ensure that the "ship is moving in the right direction" in cooperation and coordination with all parties (Turner et al., 2011). As the backbone organization managing the 5x2 Initiative, Sheatufim played a central role in shaping and coordinating the complexity of the Initiative, leading it toward its goals while supporting the relationship and trust building processes among the varied partners. This role of Sheatufim was described by one of the partners, an educator:

"Sheatufim wove this fabric and I think they did it skillfully... It's not something conspicuous, it's as if they put a hand in your pocket without you feeling it, they step up, invite people to create materials, and create a partnership without being conspicuous. Not a leader for others to follow, but rather more a coordinator or organizational consultant, and they did a good job."

These words reflect, to a large extent, the nature of the backbone organization's role in creating optimal conditions for forming a partnership between numerous actors from diverse sectors. The unique position of the backbone organization — as a facilitator, rather than as a leader — enables the inconspicuous smoothness of the processes taking place.

Many partners pointed to the existence of a backbone organization and the work of Sheatufim as one factor that made it possible to put aside interests, disagreements and gaps, and connect to a broader, systemic vision, as described by a partner from an education NGO:

"The fact that Sheatufim managed to bring so many elements into one room, " each with its own agendas, interests, overt and covert directions, and succeeded in creating in the room both a climate and employed methodologies that allowed us to discuss the interests for which we had gathered ... I think that in many cases we felt able to leave the agendas with which we came at the door, which was very good in my opinion."

Being influenced and having an influence: Activity of the partner network

Alongside the work done by the broad forum of partners, which continues to convene once every few months, the 5x2 Initiative's strength was created by the commitment of various actors from all sectors to a common goal. Not only did all of the actors influence the specific goal defined — doubling the number of students taking the advanced level matriculation exam in mathematics — they were also influenced by it. In interviews, various partners spoke at length about the mutual effects of the 5x2 Initiative on their organization, as well as on how they themselves influenced thinking within the Initiative. For example, one partner from an education NGO explained:

"We [the NGO] decided to stop for a moment and to look at ourselves and at what we are doing. There was a very serious discussion about whether we are aiming at what the Ministry and the Initiative are promoting, and whether we are influenced by it? Because it would be an educational question of great importance if I were to say, "everyone should take advanced level math." That's a big question. So we said, let's examine the data first. Let's understand the status of our graduates, the situation of the students, and we saw that our graduates were three times more likely to take advanced level mathematics than the general population. The partners asked us, how did you do this? [...] That started a whole discussion, and as far as I was concerned, it was an inverse collective impact."

The mutual influence that the partner felt in his organization was so intense that he proposed the concept of "inverse collective impact," revealing an additional advantage of working according to the Collective Impact model. The model facilitates expanding influence in varied circles around a common goal, but also going beyond that goal. Similarly, another partner from a "third-sector" educational organization described her feelings about the involvement in the 5x2 Initiative and the implications it had for her in other contexts: "It's really being at the center of the action... This is a move that I really connected to on a personal level, and I felt I had something to contribute."

Later, the same partner described how her organization's collaboration with the Ministry of Education intensified, and how they created an additional project in cooperation with a big high-tech company. All of these were direct results of their involvement in the 5x2 Initiative. Meeting other partners led to the creation of new projects and shaped the strategic directions that some organizations embraced later on.

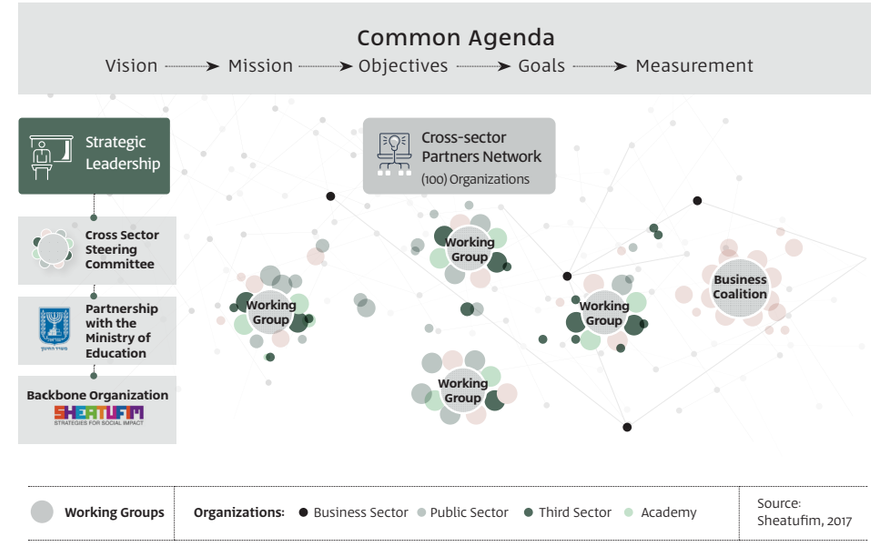
Participation in the 5x2 Initiative enabled the partner organizations to promote their organization's activity by connecting to and networking with other organizations. It also contributed to strengthening their sense of added-value, through understanding and recognizing each partner's unique contribution. For example, another partner, an educator, described:

"Part of what happened here [at the Initiative] influenced my work... I had a feeling that I'm travelling for four hours to the partnership network convention, ostensibly on a volunteer basis, but I gain something that can be brought to the field... The partnership gave [me] the ability to come back to my school and say: "This is on the agenda of the Ministry of Education. I was there two weeks ago, and the director-general said this and that..." As far as I was concerned, the profit was very substantial because I understood that I was a partner in a decision of the Ministry of Education...."

One of the most prominent examples of influencing and being influenced within the network was reflected in the organization of the business coalition, which was established to promote STEM studies among high school students and to motivate them to choose this path. The coalition was established during the earlier stages of the 5x2 Initiative, out of the need and desire of high-tech companies to create an additional platform within the 5x2 Initiative. This platform was intended for representatives of the private sector to encourage internal dialogue and strengthen opportunities for joint action. At its inception, the business coalition included ten companies, and it has now grown to 40 high-tech companies that are committed to the vision and goals of the 5x2 Initiative.

The first activity of the business coalition focused on coordinating and synchronizing the activities of high-tech companies offering volunteer lectures by engineers in high schools and conducting organized tours of their offices and facilities. The coordinated activity enabled broad distribution of activities throughout the country, focusing on the periphery and Arabic-speaking schools, and sharpening common messages about the importance of STEM studies as a key step towards social mobility and employment. The work of the coalition is coordinated with the Ministry of Education and social-educational organizations operating in the field. This coalition of actors from the private sector within the 5x2 Initiative should not be taken for granted, both in terms of the three-sector partnership concept that underlies the Collective Impact model, and the unique competitiveness of the private sector, which may prevent its collaboration with such initiatives. The coordinated action component of the model, which dictated the conduct of the 5x2 Initiative in this regard, encouraged each partner to contribute in a way that it found comfortable, and suited its area of expertise. This was the basis for establishing the business coalition, which made a very significant contribution to advancing the common goals of the 5x2 Initiative.

Working Groups' Model Established During the Third Year of the Initiative [Figure 4]



In addition to the business coalition, the working groups established during the third year of the 5x2 Initiative are another circle in which mutual influences are particularly prominent (see Figure 4 above). The working groups were formed with the aim of promoting four issues that the steering committee defined as central: (1) encouraging students to choose STEM subjects, (2) realizing the potential of students in the periphery, (3) promoting technological excellence, and (4) expanding the circle of teaching positions candidates.

The working groups made it possible for the diverse partners to become more deeply acquainted with each other, while generating shared thinking on specific issues from different, multi-sectoral perspectives. The partners described in-depth thought processes that led to various outcomes for joint action. It is clear that the tri-sector work process using working groups, and the connection to a broad goal created in the shared space, improved the partners' abilities to understand each other, and made them more optimistic and hopeful, as described by one of the partners from the "third sector":

"Participation in the initiative made it possible for me to develop additional channels for listening and observing. I think that the change occurred because I came with more patience, and also learned a lot. I left more optimistic."

The shared space created by the 5x2 Initiative made it possible for the partners to bring in their worldview, experience, and expertise, while the common messages and language permeated the organizations. These processes created movement in discourse and action.

Does Advanced Mathematics Define Excellence?

In May-June 2016, two media campaigns promoting STEM excellence and directed at the general public were launched, one by the Channel 2 television franchise Keshet in cooperation with the Eddie and Jules Trump Family Foundation and the other by the Ministry of Education.[3] Both campaigns sparked public and media debates, especially concerning the messages emphasizing that studying advanced mathematics defines excellence, and dictates the path to occupational, economic and social success. In response to the campaigns, teenagers launched their own campaign on social networks, especially Facebook, uploading their pictures with the slogan: "Successful but not in five," adding voices with other perspectives to the public debate. Sources in the Ministry of Education explicitly referred to the issue, making it clear that this was not their intention. The director-general of the ministry at the time stated:

"[The campaign] was too aggressive, in my opinion... I really do think that grades are not everything... I don't think a child must study five units [of math] if he doesn't want to, and I do not think that if a child doesn't study five units, he will not succeed. I think if you are given the choice and you make that choice, you deserve respect, but if you don't, that's to be respected as well... As an educator, I have always said that my job is not to create robots for the future. My job is to give the children an experience of being able to choose what they want. "

The campaigns led to the development of a public discussion in which teachers, parents and students participated, and eventually influenced the 5x2 Initiative itself. This was another step in sharpening the Initiative's messages that offered a broad conception of excellence and encouraged STEM education as a way to expand horizons and open doors. The public debate clearly permeated the 5x2 Initiative and resonated with the discussion that took place around the focus on "Math First", and the various approaches to STEM excellence. In this sense, the external, public discussion helped the partners recognize their inner voice that sought to go beyond STEM excellence.

It's a Revolution: Reversing the Trend and Increasing the Number of Students Taking the Advanced Mathematics Exam

In the summer of 2016, the Ministry of Education published updated data regarding the number of examinees and students taking advanced mathematics. These numbers clearly showed a reversal of the previous downward trend. From a low of 8,869 students who took the advanced matriculation exam in 2012, the number grew to 15,800 students in 11th grade who took the exam in 2017, with further increases expected until 2019.[4] Just as the previous publication of the grim data about the drop in the number of students taking advanced math was an important component in the motivation for creating the 5x2 Initiative and recruiting its partners, the publication of the data showing that the goal had been reached in 2016 was a stamp of success, and strengthened the partners resolve for the road to come. The new data prompted excitement and a sense of accomplishment among the partners, who felt that a significant change had occurred. However, it was uncertain if the achievement could be analyzed or if it were possible to explain exactly how it had been accomplished. Nevertheless, there was a clear recognition that the convergence of many forces around the same goal led to quick results, as described by the director of the 5x2 Initiative on behalf of Sheatufim:

"The fact that the goals were achieved within four years is not self-evident. The change was very rapid, and I think that the Initiative contributed to this speed.

The teachers and principals did the main work, while the national program created opportunities and access to the study of advanced mathematics that were not previously available. I think it's important that a variety of NGOs and organizations working in the field promoted the same messages, each in its own way and place. The private sector went into the classrooms with clear statements by engineers about the importance of advanced mathematics as a key to success. They all contributed to moving things in the field... These things are hard to measure, but I believe that this had a lot of power... We don't necessarily know what each organization did, and that's fine, but we know that each one shared the common goals and interpreted them in its own way... This variety, combined with the coordination and the creation of a common language is a powerful tool when trying to make a significant change."

This statement reflects the rationale for the change inducing activity of the 5x2 Initiative. A project that was designed and built according to the Collective Impact model, created a coordinated, synchronized space where all parties worked towards a common goal, but without supervision or control of their varied activities. This opened the way for multifarious processes, both on the level of the individual organization, and by partnerships formed between two (or more) organizations, as we saw in the case of the business coalition. The coordinated action, which was not necessarily managed from above, created reverberations that expanded into different regions, and enabled many forces to move toward the goal.

Systemic Change as a Two-Way Motion

To evaluate the impressive achievement attained by reversing the downward trend in the number of students taking advanced mathematics, it is essential to examine the preparatory and infrastructure work carried out in the years preceding the declaration of the national "Math First" program. As one philanthropic partner explained, the first step was taken even before the partnership network was formed, when capabilities were built within the education field. In the years preceding the convergence of the 5x2 Initiative and its network of partners, significant work was done by the social-educational organizations operating throughout the country, with the support of the philanthropic foundations.

Professional communities of teachers had already been established, as well as processes for training teachers and strengthening the quality of STEM teaching. Action had also been taken to raise awareness of the issue in schools. This prior infrastructure work was vital to the success of the 5x2 Initiative, and it was further reinforced when it was established. The initial processes of establishing the network of partners, formulating the joint agenda, and enlisting the Ministry of Education to lead, fortified the field's activity and readiness to implement systemic actions. Indeed, by the time the Ministry of Education declared the National Program for the Advancement of Mathematics, the 5x2 Initiative had sufficient infrastructure in place to do the work and implement the policy change. This is a unique case, and it contrasts with the more common situation in which a new educational policy is declared but the actors in the field feel alienated and uninvolved. This time, when the policy was declared, the educational organizations were already acting in its spirit and therefore felt they could associate themselves with its goals. Moreover, they knew how to act in accordance with the new conditions outlined by the Ministry of Education. A two-way motion was created: fieldwork and infrastructure beginning at the grassroots level was accompanied by processes of policy change, which enabled rapid, powerful change.

Long-term Perspective

Another significant factor in the success story of the 5x2 Initiative was the long-term vision shared by many of the leading partners. In numerous interviews, partners expressed their long-term vision as they discussed their broad perspective on the good of society. Indeed, it would seem that this was the internal motivation that mobilized many to join and invest energy in the 5x2 Initiative. Several partners spoke about their identity as citizens of the State of Israel, based on a broad vision of the future of the state. The partners spoke about the need for profound social change in the employment market, opportunities for the younger generations, the need for social mobility, making scientific knowledge accessible to society, and the need for a fundamental change in the attitude toward STEM studies. These broad conceptions made it possible, according to some, to put their organizational egos aside, and connect with more varied motivations.

The recognition that the decline in the excellence of STEM education is a national problem that cuts across population sectors, and has long-term implications for society, was an essential cornerstone that enabled a rare and successful connection between actors coming from different content and occupational worlds. The 5x2 Initiative enabled organizational interests, such as the industry's urgent need for engineers, to unite with broader national interests, as described by one of the partners in the 5x2 Initiative, an educator:

"A person from a high-tech company doesn't come as a representative of high tech, but as a citizen of Israeli society... There is a national vision here... On the other hand, the starting point [of the partners in the Initiative] is very real. It emerges not only from the real needs of the field, but also from genuine intentions to create change."

Looking ahead: Strategic directions and future challenges.
The sense of satisfaction and success that first accompanied the publication of the Ministry of Education's data was supplemented by many questions regarding the 5x2 Initiative's next steps.

Questions arose mainly in light of the reversal of the trend in the number of students studying advanced mathematics, and regarding the operational methods of the Initiative's network of partners. To this end, the 5x2 Initiative conducted a strategic planning process from September of 2016 to February, 2017. The planning process was aimed at re-envisioning the 5x2 Initiative's focus for 2017-2020. It resulted in a decision to focus on two main routes: first, expanding the circle of excellence in the social and geographic periphery, and second, strengthening the knowledge, skills and sense of competence of middle school students. During these meetings, the definition of excellence and a conceptual forethought that would guide the 5x2 Initiative were reformulated. The 5x2 Initiative purpose was altered as follows:

"We see our mission in promoting excellence in STEM education, as a driver of a broad educational culture of excellence. We are committed to achieving that, while striving to narrow the social gaps and provide equal opportunities to every student in Israeli society."

The understanding that in order to create a broad moral foundation for excellence in STEM subjects is reflected in the reformulation process and in its outcomes: it is important to structure messages transmitted by the 5x2 Initiative around broader ideas that emphasize the value of excellence in all education.

The Challenge of the Periphery

The Ministry of Education data shows that the impressive rise in the rate of students studying advanced mathematics is primarily found in strong municipalities of the Jewish sector in the central region of Israel. Therefore, the strategic planning process resulted in a decision to focus on encouraging STEM excellence in the periphery and in the Arab sector. From the outset, it was understood that the desire to expand the achievements of the 5x2 Initiative to the geographic and social periphery would be complex.

The familiarity of many partners in the 5x2 Initiative with the situation in peripheral areas left no doubt that the challenge would be far from simple. Their experience showed that copying an existing working model would not be enough. The periphery requires deeper thought and consideration about the roots of the gaps between the center and the periphery. Under these conditions, many resources are needed to cope with the challenge of STEM education, as expressed by one of the partners, an educator:

"At the end of the day, the teachers are the main resource, especially in the periphery, which is short on human resources... In Haifa, which is next to the Technion [Israel Institute of Technology] it's easier [than in] Dimona or Kiryat Shmona where it's much more complicated. Here it's an issue of physically reaching the place....In most places there are no high-level science classes because there is no one to teach...The obstacle is there at the outset. I also think that the story in the periphery is more complex because it's not just mathematics... [For example] What about native languages [Hebrew or Arabic] and English? There is a deep gap between them and a child from a strong place...
These two anchors make it very hard to work in the periphery."

This statement reflects some of the understandings formulated during the strategic planning process, and in the periphery working group that honed the need to build and strengthen extensive intellectual infrastructure based on quality teaching staff in order to promote excellence in mathematics. Regarding the new focus, it was also clear that a narrow conception of excellence as concentrating solely on math might be an obstacle because additional skills are necessary for success in STEM studies, including proficiency in both Hebrew and English, as mentioned above. More generally, the challenge of the periphery is not limited to pedagogy, but also requires widespread response to the absence of infrastructure. For example, there is a need to address basic needs such as nutrition and hours of sleep, that could be significant factors impeding students' achievements. Therefore, an important part of the 5x2 Initiative's future work is expected to take a holistic approach to ensure that students' basic needs are also met.

The focus on the geographic periphery emphasizes the importance of working on the local and regional levels. In its early years, the 5x2 Initiative worked to promote a national effort, but it now needs to strengthen its understandings and cooperation with local authorities.

There is no doubt that a significant change will require the commitment of local leadership, and the creation of clear priorities in the regional context.

The network's future: From initiation to maintenance and leverage.
A partner from an education NGO recounted:

"At one of the meetings, the Minister of Education said it very well: if we do not invest in infrastructure, the achievement will not persist. He called it the difference between taking steroids and building muscle. So we did the steroids part, we reached the number and surpassed it, but muscle is a mechanism that needs to be developed by teacher training, professional development within the schools, a million things. So there's a lot more to be done."

The significant achievement of the 5x2 Initiative raises questions about the processes that created it. More specifically, how could these processes contribute to its expansion? Until now, the network has operated according to the Collective Impact model, which was a major component of its success. However, questions are now being raised about the possibility of maintaining that achievement over time. Questions such as: how can the Collective Impact model, based on broad pooling of forces for a common goal, not only lead to a reversal of a trend but also to the consolidation of an alternative trend over time? How will the 5x2 Initiative operate in the implementation and assimilation phases? Will the 5x2 Initiative succeed in maintaining the momentum and commitment of the various partners over time, and in what ways?

At this stage, it is already known that leveraging the shift in the number of students taking advanced mathematics and turning it into a stable, permanent trend may require much more extensive infrastructure work than has been done to date. So far, the 5x2 Initiative has focused its efforts on particular age groups and subjects. It is possible that it is now necessary to expand into working with different age groups, and additional subjects, while aiming for diverse target populations, sectors, and geographical regions in Israel. This will require dealing with delicate social issues that have not yet emerged with intensity in the course of the 5x2 Initiative's work but are known to influence the potential of students from different groups to excel in STEM subjects.

The infrastructure development processes are indispensable for strengthening the quality of teaching staff, and the ongoing development of the next generation of teachers and must continue. Infrastructure processes tend to take a long time and require many years of work, during which the personnel changes. All this must be considered when ascertaining how to keep the flame of STEM excellence in Israel, which was lit by the 5x2 Initiative, burning.

Realizing the Potential of the Network

Realizing and maneuvering the potential of the partners' network is a key factor in the network's long-term success. During the strategic planning process and interviews conducted when preparing the case study, many partners noted that the network had not yet reached its full potential. Although new partnerships have indeed been created, it is evident that there is a need to deepen the familiarity of all the partners and promote joint strategic moves. This can be done in a number of ways; one direction that partners pointed out was the need to deepen mutual learning about the practices and strategies that the different partners use in their organizational space. Each partner brings with it expertise, knowledge and experience. For example, an educator

described in an interview how strategies employed in his school to strengthen teachers' abilities were implemented by other partners in the 5x2 Initiative. A further deepening of mutual influences will continue to expand existing knowledge and improve practices for encouraging STEM excellence.

Another potential path toward leveraging the network is to encourage the involvement and influence of less active partners. This is especially important for "third sector" NGOs that do not feel the same power and influence as other partners since their contribution to the network is not embodied in material resources. In this regard, it seems that the 5x2 Initiative must decipher how to reinforce two-way movement so "third sector" organizations are not only influenced by the network's funders but can also influence the network and its partners by sharing their knowledge and expertise.

Finally, there is a need to create platforms that encourage numerous and various connections between partners in the network. It is evident from the interviews that many partners felt insufficiently acquainted with the other members in the network, that they are curious about them and would like to deepen their familiarity and cooperation. The desire to continue deepening the network is a positive, encouraging sign that ensures its continued development.

However, this requires thinking about processes and platforms that will strengthen the network and inspire further cooperation.

Conclusion

The story of the 5x2 Initiative illustrates the joint journey of actors from different worlds towards the goal of promoting STEM excellence in education in Israel. The journey began with various actors from different sectors, activities, and motivations — philanthropy, NGOs, higher education institutes, business corporations, and the Ministry of Education who identified a common problem and organized together. As the 5x2 Initiative evolved, a common language emerged in the network, bringing with it better communication, more lively and deeper discourse, opportunities for cooperation, and a wide-ranging process in which diverse forces created broad movement in one, focused and measurable direction. Apparent in interviews of the partners were descriptions of the pleasant, enabling and nourishing space created by the 5x2 Initiative. This space was shaped by the staff of the backbone organization, based on the principles of the Collective Impact model emphasizing the values of sharing, dialogue, and building agreements between diverse stakeholders, each bringing its unique added value for achieving the goals and advancing the joint mission. The 5x2 Initiative created change not only in the external reality, based on the goals set by the Initiative, but also affected each of the partners who described the significant personal, organizational, and inter-organizational change that each had gone through in their own ways. As one of the participants explained: "The network is evolving, maturing." The common language created in the network opened up a gateway and the potential for realization and action that were not possible previously.

The system of trust and unique partnership established between the leadership of the Ministry of Education and representatives of organizations from the various sectors was a key factor in solving the unique puzzle for advancing the Ministry's national program and achieving common objectives. The open and participatory discussions, conducted in a professional and a knowledge-based manner, in which various voices could speak without fear, turned the 5x2 Initiative into a significant space for advancing the mission shared by the partners. It remains to be seen how the mature network will meet its future challenges. ■

1 Intel Israel is a subsidiary of Intel Corporations. Established in 1974 it has become Israel's largest privately-held employer and exporter with four development centers and two manufacturing-related facilities. In 2019 the company employs about 10,000 people, in addition to indirectly supporting the employment of 30,000 workers in Israel.

2 In order to follow qualitative research ethical guidelines, all quotes in this report are verbatim. Most of the respondents are not identified by their names, except for places in which identifying the speaker has significant implications for the context. In these cases, all respondents gave their consent to full disclosure.

3 See links: http://www.mako.co.il/special-math-five?partner=channelheader
http://www.ynet.co.il/articles/0,7340,L-4809634,00.html

4 According to a press release that was published on behalf of the Ministry of Education in June 2016.

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