You Need a Collective to Impact a Child's Education

A Conversation with Leaders of STEM Excellence Collective Impact Partnerships in Israel and the US

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5X2 was launched in 2013, initiated by the Trump Foundation, the Rashi Foundation and Intel Israel, and organized by "Sheatufim" — a nonprofit organization that specializes in cross-sector collaboration, and in building and leading multi-stakeholder partnerships to tackle complex social problems. With more than 100 member organizations, 5X2 is considered one of the key contributing factors to Israel's success in doubling the number of high school students who graduate having majored in math, and in increasing the public awareness of the importance of STEM excellence.

100Kin10 was launched in response to former President Obama's 2011 call to prepare 100,000 STEM teachers in ten years as a national priority. Drawing inspiration from the collective impact approach, 28 organizations, including nonprofits, government, and businesses, joined the initiative, incubated at Carnegie Corporation of New York, one of America's oldest grantmaking foundations, and made a bold commitment to reach this goal.

The "collective impact" (CI) approach to creating social change defines guiding principles to effectively tackle complex social problems (Kania & Kramer, SSIR, 2011). At its core, collective impact brings together a wide range of organizations and builds a structured network that aligns and integrates their work to achieve population- and system-level change. It is composed of five main features: (1) collectively defining a **common agenda** — vision, mission and goals; (2) implementing **shared measurement** systems to track progress; (3) fostering **mutually reinforcing activities** to align all partners; (4) encouraging open and **continuous communication** to strengthen trust and relationships; and (5) having a strong **backbone organization** to facilitate and manage the process.

Since 2011, the collective impact model has become very popular among social change initiatives in the US and around the world, addressing a wide range of social problems in the fields of education, poverty, public health, employment, and the environment. As more and more initiatives implemented the approach, lessons were learned, and the model evolved to address challenges that emerged from the field.

Both 5X2 and 100Kin10 implemented a collaborative approach inspired by CI. Both have successfully reached their main goals: By 2018, following an orchestrated effort of 100 organizations from the public, business, and nonprofit sectors that formed a strategic network partnership with the Ministry of Education, 5X2 had doubled the number of high-school students completing high level mathematics (5 units). In 2021, the 100Kin10 network included 300 partnering organizations that together surpassed their goal and prepared nearly 110,000 STEM teachers.

At the decade landmark of both initiatives, we conducted a conversation between Inbar Hurvitz, former director of 5X2, and Talia Milgrom-Elcott, the founder and executive director of 100Kin10, to explore their experiences implementing the collective impact approach to lead social change strategies in STEM education. The following conversation not only tells the story, but also wades deeply into the methodology and various approaches employed to implement it.

First Steps

Both 5X2 and 100Kin10 embraced the collective impact approach soon after it was introduced in an article in the Stanford Social Innovation Review (SSIR) in 2011 and was, in many ways, still an experiment. There were few practical recommendations for action on the ground, and no proof of success. So, from the get-go, there was a lot of curiosity (and skepticism by some) as to what CI could yield, together with a feeling of the leading partners that it had the potential to promote innovation and encourage diverse stakeholders to work collaboratively in a more effective way to achieve ambitious goals.

Inbar: When we at Sheatufim were approached about exploring the possibility of launching and implementing a national STEM initiative which followed the recently published collective impact approach, it definitely sparked our imagination and resonated well with our previous experience and belief in the value of cross-sector collaboration between government, businesses, and nonprofits. It seemed that the CI approach built on previous attempts and was more ambitious in its commitment to delivering results and promoting sustainable impact. In order to deepen our understanding of the new CI premise, we traveled to the US to learn more about the theory and practice, and to explore how it would mesh with Israeli culture in general and the education arena in particular.

Upon our return, we assessed the preconditions for a CI approach and they resonated well with us: 1) **There was a strong sense of urgency** shared by many stakeholders in the STEM education field in Israel. The ongoing decline, over a decade, in the number of students who graduated with high level STEM tracks was viewed as an urgent educational crisis; 2) **A group of leaders** from philanthropy, business and the nonprofit sector were excited to step forward; and, 3) Organizations in the field of education **had a history of collaboration** and they were ready to build on that and strengthen it as part of a national level network. These indications affirmed our assessment that CI was a good fit and we decided to launch the initiative.

We engaged in a bottom-up approach and built a cross-sector network. Approximately 40 organizations joined us at the beginning: nonprofits, academic institutions and high-tech companies, as well as mid-level representatives from the Ministry of Education. We learned that there were a few elements of CI that made it attractive to our partners: **first, the results-oriented approach.**

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The fact that it focuses on measurable goals and designs a collaborative strategy based on the most effective way to attain these results. **The second was the sense of taking part in a broad mission,** one that is bigger and beyond what you could accomplish on your own. It created a buzz that something new was happening, and people wanted to join us on this journey. Third, people were curious regarding the opportunity to create a different kind of cross-sector collaboration: influencing policy as well as designing a joint strategy based on the unique expertise of each organization and each sector — public, private, and nonprofit, and effectively integrating bottom-up action of civil society with top-down policy making.

Talia: From 2007-2013, I was a program officer at Carnegie Corporation of New York, a large foundation in the US. As a program officer, I had the privilege of funding and supporting many great organizations, learning from their work and watching them succeed, as well as struggle, and doing my best to use the resources at my disposal to encourage more of the former and less of the latter, in no small part by encouraging organizations to open up and learn from each other.

One of the things that became clear to me was that the existing incentives compelled people and organizations in the field to compete with each other and try to go it alone. Prior to founding 100Kin10, I tried in small, experimental ways to encourage people across organizations to work together, to think about how their efforts could complement each other and together create greater impact beyond their own organization's missions. President Obama's 2011 call for 100,000 new excellent STEM teachers in 10 years provided us at Carnegie an opportunity to take these experiments a step further.

President Obama's call went well beyond the capacity of any individual organization, and that required all of us to think creatively about collaboration. There was no alternative way to reach the goal but to collaborate. Our job, as the emerging backbone (still situated at Carnegie Corporation), was to learn how to get people and organizations to do things collectively that they couldn't do on their own. Together with the 28 pioneering organizations that joined us, we realized that CI requires a new way of working: each organization brings its own unique strength and expertise to the collective vision, and, through the network, they work collaboratively to learn from each other, adapt and build on each other's successes, and together, whenever needed, generate innovative and new solutions.

What made it possible at the start was that the shared goal was so broad that it demanded radical collaboration if any of us were to succeed. And more than that, it was a grand yet crucially achievable vision that could be attained working together. At the ten-year mark, we commissioned an independent evaluation of the effort. The evaluators concluded: "In interview after interview, partners credited 100Kin10 with shaping and supporting a collective and coordinated effort that empowered network partners to drive systemic change for schools, teachers, students, and families on a level they could not have achieved alone."

Mid-Course Improvements

Following growth in the number of initiatives that embraced CI, the approach also garnered a level of criticism. Some faulted it as a methodology that suits short-term, immediate goals, and fails to mobilize towards long-term sustainable impact. Others saw it as a top-down approach that does not reach out and directly involve the communities who suffer from the problem and as a result, does not effectively address issues of equity. As a response to this critique, beginning in 2016, leaders and experts of social change sought to refine the CI model.[1] It evolved and additional components were added, in particular the system-change approach and the focus on community engagement and equity. 5X2 and 100Kin10 addressed this critique in different ways.

Inbar: Indeed, promoting a long-term systemic change, is a challenging task. I am not sure we had sufficient tools and understanding of what it takes to create a transformative change that addresses the root causes and challenges around the existing structural aspects, power dynamics, and values and norms that are linked to STEM excellence. One aspect that was clear to us was that promoting long-term change entails and requires influencing policy.

This was therefore placed at the center of the strategic partnership with the Ministry of Education. We placed great emphasis on promoting supportive regulations, budgeting, and creating new incentives for local governments and school principals. In addition, we worked on encouraging long-term collaboration among nonprofit organizations in the field and, in particular, on cross-sector collaborations promoting the common goals. We were hoping that these actions would create a strong infrastructure that ensures sustainability and system change. In terms of equity, following two years of operation we realized that while we created a positive change and were progressing towards achieving our goals with respect to the trend in the number of students at the national level, it also became clear that in the geographical and social periphery of Israel, and particularly in Arab towns, the change was not as positive and strong. There was a concern that we might actually be increasing the social divide instead of diminishing it. In the second phase of the initiative (2016), we designed a strategy tailored for municipalities in disadvantaged areas in Israel, which was based on a partnership between the Ministry of Education and the local municipalities. We were hoping to achieve better results and to make progress towards greater equity. The mission in this regard is definitely yet to be accomplished.

Talia: Look around. There is not a single city that has succeeded in graduating all its students with the level of STEM learning that would allow them to pursue STEM opportunities in college or beyond if they so choose. Yet there are thousands of efforts around the country focused on STEM and education. We don't need more individual efforts; that piecemeal approach isn't working. We need to aggregate and link these efforts so that they connect, complement, and build on each other. And we need to do that not just in one place, but in many places, so communities can learn from each other's successes, adapt them to their own circumstances, and leapfrog toward impact for children.

As I mentioned, we had an independent evaluator review our work over the past ten years, and one of the things they found was that everyone they interviewed agreed that they had accessed better practices and were doing better work because of the 100Kin10 network. But the solutions they were accessing weren't generated by 100Kin10.

They were generated by their peers in other organizations. In terms of the challenge of focusing on those most impacted by the inequality being addressed — that was not a central part of the original CI approach. It was a gap that we saw more and more clearly over our first decade, and, as I'll discuss more in a moment, it's a gap we chose to address head on as we planned for our next decade.

The Government

In both initiatives, the relationship with the government played a significant role in the journey towards change and the ability to succeed. While the goal of 100Kin10 was set by President Obama, 5X2 needed to convince the Ministry of Education to act jointly with the cross-sector network in order to turn STEM excellence to a national priority. When Naftali Bennett became the Minister of Education in 2015, the vision and goals of 5X2 resonated with his own agenda. Bennett, formerly a high-tech entrepreneur, supported the idea of setting a measurable goal with a clear timeframe, similar to 100Kin10 — and he joined 5X2 with the aim of doubling the number of five-unit mathematics students in five years. The multi-sector coalition provided him with support and legitimacy, especially when facing public criticism.

Inbar: We knew from the beginning that a strategic partnership with the Ministry of Education was essential to achieving results. In the early phase we did not know what form or shape it would take, but we knew it must be a key component in our strategy. The relationship with the public sector was not a major component of the CI theoretical model, but we recognized its unique significance in the Israeli system. We placed great emphasis on the role of the public sector and saw it as a critical leader for the advancement of any systemic change.

This was not trivial, as local NGOs are often oppositional and skeptical with regard to the Ministry of Education. We believed that the collective impact approach could create a different discourse between non-profits, business, and the Ministry of Education. And it did, with great results — we created a new spirit of wide-scale collaboration that harnessed an understanding that we must find ways to effectively address the different aspects of the problem together, and that each partner has different capacities and strengths. Our challenge was to clarify exactly how the puzzle of different players would fit together and we are proud to report that we were able to defeat cynicism and bring about a concrete and pragmatic approach. This was very refreshing and helped to create positive momentum.

Furthermore, when we approached the Ministry of Education leadership, we found their openness and understanding of the potential of the unique cross-sector collaboration we offered to be relatively high. Notwithstanding a commitment to the government as the sole agency accountable for the success of all students, they were looking for innovative ways of working together with nonprofits, businesses, and philanthropy to achieve the desired results. As a result, the Ministry of Education launched a new national program that included new policies such as: dedicated budgets for increasing teaching hours, regulations for opening new classrooms to increase access for all students, incentives for school principals and local municipalities to encourage students to choose high level math, training for teachers, recruiting new teachers, and a public campaign to increase the awareness and motivation of students, families, and teachers. Together with complementary actions of a business coalition of over 40 high-tech companies and the work of 50 nonprofit organizations, results have begun to show, and the decline in the number of students who complete high level math has now been reversed.

Talia: The fact that the call to address the shortage of STEM teachers was announced as a national priority outlined by President Obama gave us legitimacy, inspiration, and momentum. The truth is that no one, not even the White House, expected to see the field mobilized to this extent, let alone to see the goal realized on time. And there was no plan for this call to action to come to life and become an actual initiative. But once we launched 100Kin10, spurred by President Obama but run and acting independently, it became a great partnership.

100Kin10 was in a position to mobilize the field and bring both likely and unlikely allies together to take action in pursuit of the goal set by the White House. At the same time, the White House continued to prioritize this goal: The President spoke about it in diverse venues, including in his second Inaugural Address, and the White House offered various STEM and education moments to publicly celebrate the work of the network and its growing group of partners, incentivizing others to step up and join the multi-sector coalition and encouraging more people to do the work.

During the Trump Administration we had little to no relationship with the White House, and now we are grateful to be in dialogue with the Biden Administration and especially its Department of Education, as we set a new goal for the next decade and work to generate new momentum.

The Backbone Organization

The collective impact model emphasizes the need for a backbone organization as a necessary condition for success. 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.

Backbone organizations essentially pursue six common activities to support and facilitate collective impact over the lifecycle of an initiative: guide vision and strategy; support aligned activities; establish shared measurement practices; build public will; advance policy; and, mobilize funding *(Turner, Merchant, Kania, & Martin, 2012).*

There are many different forms and models of backbone organizations. For 5X2, Sheatufim, a nonprofit that serves as a leading intermediary in the Israeli nonprofit sector, took on this role. Parallel to 5X2, Sheatufim managed other collaborative efforts in other content areas. In 100Kin10, the backbone role was first performed by the Carnegie Corporation and later by a newly established independent 100Kin10 (a fiscally-sponsored entity) whose sole role was to manage the large network of 300+ organizations in their efforts to reach the goal. This makes for a distinct difference between the two initiatives.

Inbar: The critical role of the backbone organization was clear to us at Sheatufim from the get-go and resonated well with our previous experience as facilitators of cross-sector round tables at government ministries. We recognized the important role of the convener to design and create the "holding environment" that will create an inclusive culture and allow all voices to be heard, trust to be built, and effective and joint work and decision-making to progress. During the first year of the initiative, we also realized the unique role of a backbone organization in a collective impact initiative as a leader that does not necessarily stand at the head but rather, serves as an enabler of the right conditions being created for other leaders in the field to feel ownership and to represent and push the initiative forward.

Our backbone team indeed pursued all six activities as the CI model suggests. In order to work effectively on all fronts, we created a three-tiered structure for our network:
1. A cross-sector steering committee — responsible for guiding vision and strategy. Our role as the backbone team was to cultivate a culture of collective leadership and not to turn the committee into a traditional hierarchical board.
2. Multi-stakeholder "working groups" — responsible for designing strategy implementation and alignment around specific key issues, such as: how to increase STEM excellence in Israel's periphery, how to expand the circle of excellent STEM teachers, how to address the unique challenges during the middle-school years, and more.
3. A plenary network of all 100 partner organizations which met once or twice a year. The plenary served as the platform to cultivate and enhance collaboration and alignment, generate the public will and mobilize an ongoing momentum in the field over time.

Talia: When 100Kin10 launched, I was a program officer at Carnegie Corporation of New York. In that role, I was committed to finding and financially supporting organizations whose work aligned with our mission. Yet, at the same time, I was nurturing a network where the goal was to invite many and diverse organizations and viewpoints into collaboration to achieve a goal together that none of us could reach on our own. Those goals could easily be seen as in tension, so during the first three years, before 100Kin10 became independent, I was very explicit about wearing two hats — as a Carnegie staff member and as the lead of the nascent 100Kin10 network.

No question, there were some great advantages to leading the initiative from Carnegie. It allowed us flexibility to innovate, and it freed us, in those first years, from needing to fundraise. But by 2013, three years after we launched, 100Kin10 had grown too big to be a side effort, and we needed to know that the network was growing because organizations were aligned with and committed to the goal, and not just because they hoped to get funding. When we spun out at the end of 2013, we could focus like a laser on how to mobilize and support hundreds of organizations to contribute to a shared goal that wasn't directly in their mission statement -- not to do the work ourselves but to create the environment where many others can do that work.

That said, I'll be honest and say that the work of a backbone organization can be somewhat lonely. We are deeply engaged with hundreds of organizations and people, yet we pursue a counter-intuitive approach to change — not doing the work ourselves but creating the conditions for other organizations to do their work better. It's why we so value conversations and partnerships like this one, where we can learn in dialogue — in connection — with other folks trying to do the same kind of work across sectors or across oceans.

Trust and Relationships

At the heart of the CI methodology lies the building of "trust" as one of the key components in getting everyone onboard. This can be challenging. Oftentimes, governments think that change comes purely from policy and budgets; academics believe that research, labs and publications turn the wheel; entrepreneurs value system innovation to create a chain reaction; and, philanthropic foundations and non-profits prize equity strategies and investment to address the root causes. One of the main challenges in collaborative strategies is how to bring all of these perspectives to the table and how to build trust that will allow effective work processes.

Inbar: Building trust and cultivating relationships between the various stakeholders and partners is indeed key to any collaborative effort, and especially to complex and ambitious efforts like a national level CI initiative that mobilizes tens of organizations. The backbone organization has a critical role in building trust among the different stakeholders. Sheatufim's reputation is of an organization whose expertise is the process — building and leading multi-stakeholder partnerships to tackle complex social problems — and since we were not experts in the content of STEM education and were not part of the STEM field, we were perceived as an honest broker, convener, and leader. We told our partners: "You are the experts, and we want to foster your knowledge and bring it to the table."

Our role was to create the "holding environment" in terms of gathering knowledge, expertise, and perspectives from all the different actors in the initiative. We identified the unique competences of the businesses, nonprofits, public agencies, philanthropic bodies, and academics. We added value by bringing all their agendas and interests to the table and leading constructive discussion and joint decision making. This was not an easy task and required great sensitivity and attention to detail. It often lengthened the process, but it conveyed the message that we were serious in our collaborative efforts, and that there was no one simple answer. In this way we gradually built trust.

The use of research and data was another important factor in leading complex discussions and in trust-building. We placed great emphasis on generating a transparent database of updated information from the Ministry of Education and making it accessible to all. Prior to our initiative, each organization looked at different data sets, interpreted them independently and then directed their strategies in different directions. This resulted in a very fragmented system. Through our partnership with the Ministry of Education we stressed the importance of data in our discussions and its availability to all. It was not always easy, but we were able to make progress in this regard.

The more we were able to show the evolving trends in data points, the more the partners were convinced that for the first time we were working together — as a wide network of 100 organizations from the public, private, and nonprofit sectors — towards the same goals, and that the collaborative work contributed significantly to moving the needle.

Talia: Striving towards collaborative action that is aligned and coordinated among many different players is not an easy task. Only when you create enough trust can people be honest about the limits of their organizations, and it's only when organizations can be honest that they— we, because this is true for all of us — can do the transformative work that is required. We say at 100Kin10 that the speed of a network is trust, and we've actually come to believe that the speed of change is trust. We found that trust is a necessary condition for promoting change.

One way we cultivated trust was to be clear that the expertise is in the room — it's not us, the backbone, but the folks in the network themselves, who are the experts. We as the backbone must create the conditions for those experts to capitalize on each other's expertise, on the organic knowledge in the field. Our role, therefore, is to keep inspiring people to show up and build that trust with us and with each other so that they choose to contribute their own time to this goal, which is often connected to but bigger than their organizations' goals, and to share their challenges and vulnerabilities to maximize the chances of finding someone who can help.

We reconnected people to a truth they know but sometimes minimize: that they and their organizations are both necessary and insufficient (on their own) for the change that we all want to see. It's only in a network that we can solve our biggest challenges.

And, like I said, the speed of a network is trust. So, the only way we're going to solve our biggest challenges is to cultivate trust among organizations that might otherwise see each other as competitors.

The Second Album Syndrome

Both initiatives were successful in reaching their initial goals. In 2018, after five years of operation, 5X2 doubled the number of students who matriculated in five-units of mathematics. In 2021, 100Kin10 reached and even exceeded the goal of 100,000 STEM teachers on time. Both initiatives confronted the challenge of addressing success, understanding the need for a new goal to advance the overall vision, and facing the challenge of how to regain momentum and replicate success.

Inbar: After five years of working together we have reached the goal of doubling the number of students who complete the high-level mathematics tracks; and, as we were hoping, this also affected other STEM areas including physics, chemistry and technology. We were successful in changing the dynamic in the field and, the coalition of 100 organizations — with the leadership of the Ministry of Education — achieved the goals we set at the beginning of the journey. At that moment, in 2018, we actually chose to stop and examine whether and how we should continue. Was the mission fully accomplished? Did we create sustainable change? Is there a role for the initiative's network moving forward? We held a strategic discussion with our steering committee. The main conclusion was that there were some systemic challenges that the initiative had the potential to address but had not yet done so. Those challenges included: to ensure the sustainability of the change in trends over time; to address the slowing increase in the number of students completing high level STEM tracks in disadvantaged communities; and, to cultivate STEM excellence at younger ages, particularly in middle school.

The next steps were to look at the data and discuss the next phase and define specific goals for the coming five years. Following lengthy discussions with the steering committee and a wide variety of stakeholders, the new focus was defined as advancing STEM excellence and STEM skills in middle schools. I was no longer the director of the initiative but I know that leading the initiative to its next phase and cultivating renewed momentum was not an easy task. It has now been rebranded and launched as — TOP15 — with the goal of positioning Israel within the top 15 countries in STEM education.

Talia: As we were preparing to close up the 10-year goal, we knew that our work was not finished. Too many kids, especially kids of color, were still in schools without enough STEM teachers and were, as a result, missing out on STEM opportunities. We knew we needed another goal, but what should it be? Without a call from a President, we decided instead to listen to young people, especially young people of color, themselves, and let our next goal come from their stories. So, we launched a massive exercise in storytelling and invited young people from around the country to tell their stories about their encounters with STEM during school.

We knew that, if we could truly listen, the next goal would emerge from that process. From the bottom up and not top-down. Six-hundred young people from around the country shared their stories in the fall of 2021. We heard three main things from them: First, they have not given up and are fired up to do great things in STEM. Second, they are yearning to belong, they want to feel that they have a place in STEM, in particular students from communities of color who are still excluded from STEM opportunities. Third, it was teachers who created that feeling of belonging in STEM and even helped young people who had spent years feeling excluded and like they weren't good enough learn and love, persevere and succeed in STEM.

By 2032, our goal is to prepare and retain 150,000 STEM teachers, especially for schools serving majority Black, Latinx, and Native American students. We'll support our network to prepare teachers who reflect and represent their students and to cultivate workplaces and classrooms of belonging, creating the conditions for all students to thrive in STEM learning. So, this is the framework for the next 10 years, focusing on racial equity and belonging. We believe that if we can do this over the next 10 years, we can reduce the STEM teacher shortage by about a third. And that will give us the ability and confidence to say that we can end the STEM teacher shortage within another decade. ■

References

Turner, S., Merchant, K., Martin, E., & Kania, J. (2012). Understanding the value of backbone organizations in Collective Impact. *Stanford Social Innovation Review.* https://doi.org/10.48558/X3KJ-BS10

1 In fact, Talia wrote a piece for the Stanford Social Innovation Review, the same journal that first published the Collective Impact piece by Kania and Kramer, titled "Networked Impact," offering a model that drew on but also departed from CI.