

Written Testimony of **Davut (Hakan) Habip**, Founding Chairperson of Science Heroes Association for The Tom Lantos Human Rights Commission Hearing

“Defending the Rights of Vulnerable Children and Youth through Education: A Focus on the Role of Self-teaching and Play” - June 28th, 2017 1:30 -3:30 2255 Rayburn House Office Building

Who is Davut (Hakan) Habip?

Davut (Hakan) Habip is a father and a hacker. According to the recent *AncestryDNA* results, he is 55% European, 44% Asian, and 1% African. He was born in 1961 in Istanbul, Turkey to parents with Sephardic roots. He currently has Turkish and Spanish citizenship. He is a US resident.

He has studied mathematics and management science. In 26 years of professional life, he worked in corporate sales, distribution, manufacturing, and international finance. In 2000, he came across concepts of positive change and has been a missionary for them ever since.

Since 2004, Hakan has been organizing scientific tournaments in Turkey for students between 6 and 18 years old. He is the founding chairperson of Science Heroes Association (SHA), a Turkish non-profit. In 13 seasons, SHA volunteers have cumulatively reached 17.000 students from 56 cities.

Mr. Habip has been selected as one of *Turkey’s Changemakers* by the Sabanci Foundation in 2013. Based on his experiences Mr. Habip has given two TED speeches and wrote an article [A Holistic Model to Empower Humanity \(2015.\)](#) He believes his approaches can both help build sustainable peace in some of the most volatile parts of the world and at the same become a seed for change of a global scale. **The article is intended to be a part of this written testimony.**

What motivates D. Hakan Habip?

Life. Learning. Children. Trial, error & perseverance. Volunteers. Sincerity. Authenticity. The sense of humor. Change. Positive change. Empowerment of children. Empowerment of girls. Justice. Equalities of types. Accountability of public officials and businesses. Regional and World peace.

Does he have OCD?

Probably.

What are the goals of Science Heroes Association (SHA)?

Bilim Kahramanları Derneği (Science Heroes Association) is a Turkish non-profit founded in 2011 by the volunteers who have been working together since 2004. Its goals are:

- a. To render science the focal point of the society,
- b. To introduce children and young adults to STEM subjects as early as possible,
- c. To encourage young scientists under the age of 38.

www.bilimkahramanlari.org

<https://www.youtube.com/user/bilimkahramanlari>

<https://www.facebook.com/bilimkahramanlari/>

What does SHA do?

Currently, SHA has 5 programmes:

1. **FIRST LEGO League Jr. (FLL Jr.):** science expos for the 6-10 year olds; teams of 3-6 can prepare coached by an adult (i.e. teacher, parent, university student); they usually work at their school for a period of 8-12 weeks; each year according to the theme of the season, students design and code a moving LEGO structure; they also identify a theme related problem, research, come-up with innovative solutions and design a poster outlining their 8-10 week experiences; they also use, internalize and disseminate the core values of FLL Jr.; they participate in expos where along with 12-20 teams; they present their poster and mobile structure to “reviewers” and to other visitors; each team is recognized by an award. Current reach: 1.000 students from 24 cities. The expected (although tempered) growth rates in Turkey are 100% per year for the next 5 years.

FLL Jr. has been designed by FIRST and LEGO. It is currently being organized in 41 countries (with over 11.000 teams) by local independent entities such as SHA.

<http://firstlegoleaguejr.org/>

2. **FIRST LEGO League (FLL):** science tournaments for the 9 - 16 year olds; teams of 4 to 10 prepare coached by an adult (i.e. teacher, parent, university student, FLL alumnus, etc.) ; they usually work at their school for a period of 2-4 months; each year according to the theme of the season, students design and code a LEGO robot to solve certain mechanical problems within 2,5 minutes; they also identify a theme related problem, research, come-up with innovative solutions, share, and prepare a 5 minute - often theatrical - presentation regarding their solution; they also use, internalize and disseminate the core values of FLL; they participate in regional tournaments and depending on their success levels can continue to national and international tournaments with similar formats. The teams are evaluated by referees of the robot game, and 3 sets of judges (robot design, project, and core values.) The current reach: 2.500 students from 45 cities. The expected (although tempered) growth rates are 25% per year for the next 10 years. Turkish teams have earned 25 international awards including the Open European Championship and the Canadian International Open Championship.

FLL has been designed by FIRST and LEGO. It is currently being organized in 88 countries (with over 32.000 teams yearly) by local independent entities such as SHA.

<http://firstlegoleague.org/>

<https://www.firstinspires.org/>

3. **World Robot Olympiad (WRO):** robotic tournaments for K12 through university students; teams of 2 to 3 prepare coached by an adult (i.e. teacher, parent, university student, FLL-WRO alumnus, etc.) ; they usually work at their school for a period of 2 months; each year according to the theme of the season, students design and code a LEGO robot to solve certain mechanical problems within a given time. The teams are evaluated by referees of the robot game and the project judges. The current reach: 200

students from 16 cities. The expected (although tempered) growth rates are 50% per year for the next 10 years.

WRO has been developed by the World Robot Olympiad Association. It is currently being organized in 58 countries (with over 22.000 teams yearly) by local independent entities such as SHA.

<http://www.wroboto.org/>

4. **Curiosity Machine (funded by Boeing):** science activities delivered to public school students. 1.000 students have been reached in 2016-2017. Expected growth is 100% for the second season.

Curiosity Machine has been developed by Iridescent.

<http://iridescentlearning.org/>

<http://merakmakinesi.org/>

<https://www.curiositymachine.org/>

5. **A Night of Science Heroes (ANOSH):** an award ceremony for scientists and engineers under 38 years old. The filters are: contribution to science, contribution to extending the reach of science to larger populations, contribution to the quality of life. 3 university presidents co-host the event along with SHA. They assign the members of the selection committee. The 3 universities change every year. SHA has completed its 5th season of ANOSH. The award winners are invited to and attend different SHA events so that younger students are inspired.

<http://www.bilimkahramanlari.org/yilinbiliminsani/>

Impacts:

The participants are more likely:

- To finish secondary education
- **To be interested in STEM subjects**
- To study STEM subjects at the university level
- **To work in a STEM related fields**
- To be resilient against failures, traumas, and natural disasters
- **To be interested in social causes**
- Their R&D capacities increase
- **Their fine motor skills, self-esteem, self-confidence, confidence in others (a big problem in our part of the world,) expression, listening, interaction, presentation, time management, design, coding, research, scenario building, acting, inclusion, win-win thinking skills improve.**
- Each year there are patent applications. Some of our alumni attend the best universities in the World with scholarships. Each student feels that they are adding to the quality of their own lives as well to those of others'. They find meaning with each step. The process is fun, engaging, and consistent.

What would SHA like to accomplish in the near to medium term future (within 5 years?)

1. Do what is doing better at a larger scale.
2. **Reach cumulatively 100.000 students by 2030.**
3. Bring angel investors together with FLL teams so that their innovative ideas can be funded.
4. **Organize an annual international invitational FLL in Turkey with teams coming from all neighbors of Turkey.** Gradually expand its reach to include countries in the Balkans, the Caucases, and the Middle East. Every year add a new dimension: invite parents, musicians, dancers, cooks, KOL's, journalists, universities, and eventually the politicians of each country. **Code name: APOS (A Piece of Science) Slogan: "No flags, just us!"**
5. Organize activities that bring Turkish children together with the children of refugees.
6. **Reach the SHA alumni for funding.**

Who funds SHA?

Very few individuals and about 30 corporations donate in-kind or financially. The current list can be reached at: <http://www.bilimkahramanlari.org/tr/destekcilerimiz/> Teams pay registration fees.

How are the participants selected at SHA events?

They are not selected by SHA. A team coach registers a team and then selects the team members. The only filters SHA have are: the age of participants need to fall within given dates every year and SHA declares a maximum number of teams per season. Historically, 30-35% of participants are girls. Again historically, %30 of the teams are from public schools or supported by NGO's. Proactively, the SHA team tries to increase these percentages.

Have the underserved and traumatized children participated in SHA events?

Yes, SHA seeks to increase the underserved each year. Each year at least 5 new cities participate to SHA events. For the traumatized, special projects have been written. In 2014, after 2 mining accidents (Soma and Ermenek) corporate donors allowed SHA to reach such children. In 2017, SHA has organized events that brought Turkish and Syrian children together in Hatay. We are currently discussing a pilot project for Syrian children with the Public Affairs Officers of the US Consulate in Istanbul.

Why are SHA activities important?

The Turkish society has been living through layers of violence imposed by different parties. Lately, the separation of powers, the belief in the justice system have almost disappeared. Polarization based on ethnicity, religious beliefs is taking a great toll on the levels of trust. Many families have lost hope in the future. Over the past 15 years, the Turkish education system has been modified many times. What SHA does, gives hope to almost everyone. Children are able to express themselves freely. In the future, these participants will be able to bring together differences in Turkey.

Once they participate in international events, the very same participants will be perfectly in harmony with humanity at large. These will be the seeds of sustainable peace.

Who are the SHA volunteers?

University students, corporate & NGO employees, public servants, journalists, and the FLL alumni.

Who is the SHA team?

Passionate people from all walks of life.

Link for the org chart

<http://www.bilimkahramanlari.org/tr/organizasyon-yapisi/>

- **What has SHA observed about the participants?**
- **What is the impact of participation in SHA activities?**
- **What are SHA's sensitivities?**
- **What is likely in the future?**
- **How can the Congress bolster the positive outcome?**

These questions will be answered in my speech.

NB:

When I use the word hacker. This is what I mean: as a father, I do not like many things I see worldwide: populist policies, violence, denial of violence, a celebration of individuality at the expense of building communities. As a result, people are scared, they feel lonely, enslaved, to say the least. This is true not only regarding the Syrian refugees but also what I call the mental refugees right here in downtown Washington DC - kids/grown-ups alike - who do not believe that they can change the world for the better.

NB2:

I could not have done what I have done without the selfless, gracious contributions of SHA's professional team, the volunteer teams, our in-kind and financial donors, each participant, parent, and teacher I interacted with, my family: Su, Fatma, & Ege. Then there are our friends at FIRST, WRO, LEGO Education, LEGO Foundation, and the Ministry of Education and finally even those who doubted me...they each have inspired me to push the limits further.