

White Paper

July, 2023

To respond to the rapid change in the industrial structure, the government provides STEAM education to more children in the nation to help them gain future science and tech skills. However, the reality is that STEAM is not delivered equally. Many children in low-income communities still do not have access to STEAM. To address this issue, the organization aims to increase awareness of STEAM education's importance and access to STEAM education among children in the community where poverty prevails. The outcome we expect to have is making STEAM education becomes a demand-driven program, and we deliver the program to meet this demand in the communities.

The organization's mission is *CHC strives to increase access to STEAM education among unprivileged children.*

The organization's objectives are *providing High-tech Knowledge to children, conducting Research and Publications, and establishing Partnerships.*

Core Goals:

- Increasing Community Awareness of Equity in STEAM
- Establishing Demand- and Data-driven STEAM Program
- Filling the Gap in school STEAM education
- Increasing Math Score among Children in low-income families

Indicators to measure the outcomes to produce results:

- the number of kids who register for the STEM afterschool program
- the number of parents who know why STEAM is important
- the number of parents who is satisfied with our program
- the number of kids who understand coding
- the number of kids who can operate robots
- the number of kids who increased their math scores at school

The organization provides **three programs**: (1) a community-based informal STEM afterschool program; (2) a math tutoring intervention program; and (3) research and data analysis.

As of August, 2023, the organization has successfully provided the first program, a community-based informal STEM afterschool program. It provided a pilot STEM

afterschool program at THEARC in Ward 8 during the fall semester of 2022. With the success and high demands, it has offered the program at Parklands-Turner Neighborhood Library since spring semester of 2023 after the contract with DCPL (DC public libraries). During STEM afterschool program, children learn video editing and a coding program and participate in robotic activities. The organization recruited three learning coaches: a learning coach for computer languages, a learning coach for volunteers, and a learning coach for instructors. There are several team instructors: an instructor for video editing, an instructor for coding, and an instructor for robot assembling and activities. Dr. Lan Joo (C.E.O.) provides one-on-one in-depth math tutoring intervention programs to STEM kids as a follow-up lesson. In addition, children receive free meal services during the STEM afterschool program.

What we have accomplished:

- Increasing Community Awareness: The community learned the meaning and importance of STEM education. Parents who realized the importance of STEM education through our program started bringing their children to the program.
- Establishing Demand-driven Program: Children want to participate in our program because we provide fun activities using hands-on materials.
- Filling the Gap in School STEM: We fill the gap in school STEM education by providing STEM supplies, such as coding, electronic, and solar robots, and teaching tech skills using computer devices.

Expansion of STEM afterschool program:

Dr. Joo, Founder and C.E.O., envisions the STEM afterschool program to be community-based informal STEM education. C.H.C. contracted with D.C. public libraries (DCPL) and will provide the program in other DC libraries as well as public libraries in other regions to reach out to children so that all children will have access to their STEM learning opportunities.