About STEM

STEM (Science Technology Engineering and Mathematics) blends learning environment and shows students how scientific methods can be applied to everyday life. It is beyond smart class room and more about hands – on learning. Through STEM students develop analytical, scientific, mathematical and technical skills. The idea is to improve competitiveness in science and technological development, and to bring knowledge and skills to solve problems, make sense of information and know how to gather and evaluate evidence to make decisions.

Objectives of STEM Project:

The core objective was to end information poverty and empower marginalised communities in information dark regions by bringing a digital revolution. The objectives of this project were -

1. To encourage girl students to pursue STEM career and develop a scientific and rational approach.
2. To introduce Computer programming, and digital literacy.
3. To teach girls the use of STEM in their day to day life.
4. To conduct sessions on Career and Life skills.
5. To educate about Gender roles, the stereotypes associated with it and Eradicate Gender Stereotype.
6. Improve the Soft Skills
7. Coding on SCRATCH

Recruitment Process

What is teaching?

Teaching is an important part of the process of Education. Its special function is to impart knowledge, develop understanding and skill .*Teaching* is communication between two or more persons, who influence each other by ideas and learn something in the process of interaction.

What Is a Facilitator?

The definition of facilitate is "to make easy" or "ease a process." What a facilitator does is plan, guide and manage a group event to ensure that the group's objectives are met effectively, with clear thinking, good participation and full buy-in from everyone who is involved.

Differences between Teaching and Facilitate

Teaching	**Facilitate**
Teacher focuses on lesson content	Facilitator focuses on learning process
Teacher's expertise is more valuable than students'	Participants' expertise is just as valuable as teacher's
Teacher determines what students need to know	Participants work with facilitator to determine what information and skills they need to obtain
Teacher has responsibility for obtaining information and delivering it to students	Facilitator gives guidance to participants in seeking out their own information
Activities reinforce remembering or applying information teacher has provided	Activities provide practice in obtaining information and using it for making real-life decisions

Facilitators Role and Responsibilities:

- Facilitator is the ambassador of the program in the school with Head Master, Student and parents.
- Each Facilitator was be responsible for 3 to 4 schools
- School permission as HM consent letter, proceeding order and order copy of facilitator
- School Induction- Everyone in the school should know about STEM Program
- Student Enrolment- Facilitator should know which students are the part of STEM Program.
- To teach STEM programme to 8th & 9th the students of Telangana social welfare Schools.
- School timing is Job timing.
- Conduct teacher-parents meeting
- Conduct career day event.
- Participate in the state hackathon event.

- Conduct quarterly parent teacher meeting.
- Conduct quarterly teacher and headmaster meeting.

For the recruitment drive of facilitators, we have circulated the job advertisement through social media and local (influential) contact persons in Assam and Telangana, We received 50 CVs from across districts. The first screening of candidatures was done on the basis of education qualification. Candidates having BSc degree, teaching experience and computer knowledge were selected for the telephonic round.

Candidates have been called for personal interview after the first round of telephonic interviews. Facilitators were recruited on basis of their teaching experience, education qualification, digital knowledge and communication

Skills. In total we selected 22 facilitators (14 girls, 8 boys), and three final list was ready by the 2nd week of January in Assam.

STEM which aims to do the overall building up of Girl student regarding the gender, digital empowerment and use STEM subject into their day to day can only be persuaded through a facilitator who can guide them regarding all these things.

- **Community Building Relationship:** Community building activities helps the Facilitators to understand each other better. After completing team building activities together the facilitators better understand each other's strengths, weaknesses, and interests. It keeps unity in the Training.
- **Importance of Life Skills:** Building life skills is essentially an exercise in helping children develop sound judgment and good habits for long-term stability, wellness, and success.

The World Health Organization identified some key areas of life skills:

- **Communication and interpersonal skills.** This broadly describes the skills needed to get on and work with other people, and particularly to transfer and receive messages either in writing or verbally.
- **Decision-making and problem-solving.** This describes the skills required to understand problems, find solutions to them, alone or with others, and then take action to address them.

- **Creative thinking and critical thinking.** This describes the ability to think in different and unusual ways about problems, and find new solutions, or generate new ideas, coupled with the ability to assess information carefully and understand its relevance.
- **Self-awareness and empathy,** which are two key parts of emotional intelligence. They describe understanding yourself and being able to feel for other people as if their experiences were happening to you.

Facilitators understood importance of life skills and they developed the skills through the training.

- **Gender & Sex** Gender refers to the socially constructed characteristics of women and men – such as norms, roles and relationships of and between groups of women and men. It varies from society to society and can be changed. While most people are born either male or female, they are taught appropriate norms and behaviours – including how they should interact with others of the same or opposite sex within households, communities and work places. When individuals or groups do not "fit" established gender norms they often face stigma, discriminatory practices or social exclusion – all of which adversely affect health. It is important to be sensitive to different identities that do not necessarily fit into binary male or female sex categories.
- **Gender stereotype** Gender stereotypes are harmful because they don't allow people to fully express themselves and their emotions. For example, it's harmful to masculine folks to feel that they're not allowed to cry or express sensitive emotions. And it's harmful to feminine folks to feel that they're not allowed to be independent, smart or assertive. Breaking down gender stereotypes allows everyone to be their best selves.

Facilitators identified the factors of gender and they tried to eradicate the gender stereotypes among the students.

Training Programme of Facilitator:

Along with the soft skill training, Facilitators were also given some technical training about Scratch programme, the tools used for digital implementation.

Training included for the

1. Download the SCARTCH programmer from Google
2. Coding of SCARTCH Programme
4. Practice the SCARTCH programme

3. Presentation of various projects on SCARTCH programme

SCARTCH Programme:

Scratch can either be used online in a web browser, or downloaded and used offline. Scratch is designed especially for age group 8 to 16 year's children. It allows children to learn coding concepts and create interactive projects without needing to learn a text-based programming language. If children have a Scratch user account then projects can also be shared online with the Scratch community, giving children a real audience for their creations. Scratch is used in many schools as part of the curriculum. When children are ready they can try text-based languages such as HTML & CSS or Python, but there's plenty of opportunity to develop useful skills in Scratch first.

The ability to code computer programs is an important part of literacy in today's society. When people learn to code in Scratch, they learn important strategies for solving problems, designing projects, and communicating ideas. With Scratch, we can program on our own interactive stories, games, and animations and share our creations with others in the online community. Scratch helps young people learn to think creatively, reason systematically, and work collaboratively, essential skills for life in the 21st century.