

Rural Technology Centre & Asha for Education – Chennai Visit

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Point of Contact:

Mr. Rajaraman Krishnan, Volunteer Full Time, Asha For Education, Chennai in association with IIT Madras Pravartak Technologies Foundation.

Purpose:

We want to understand the concept of Rural Technology Centres (RTCs) established by IIT Madras Pravartak Technologies Foundation in partnership with Asha for Education.

Background:

We have sent a mail to Coordinator, IIT Madras Pravartak Technologies requesting them to permit us to visit the Rural Technology Centre to understand their best practices. The same may be implemented in our knowledge centres if found suitable. The Coordinator, Ms. Sruthi connected us to Mr Rajaraman Krishna who will accompany us during the visit.

Mr. Rajaraman Krishnan is a Full Time volunteer for Asha for Education. He is working in the field of education for the underprivileged in India for the last several years. He used to work as a software engineer in USA. After coming back to India, he started his own company Solnet Technologies. But for the last 4+ years he has been volunteering full-time for this cause as the coordinator for Asha for Education.

PUPS Kuppammal Chaitram:

Our day started with the visit to PUPS, Kuppammal Chaitram, which is a primary school (Class I to Class V). A small area was provided for Asha for Education in the school premises. The aim is to train the students in digital literacy. A teacher is deputed in the school by Asha for education to handle the computer classes. The teacher comes to the school for 2 days in week. 2 hour slots are given to the students to attend the computer classes. The students are taught paint, word processing and presentation using **Open Office tools like Libre Office**. There are 4 computers in the school (2 given by Government and 2 given by Asha). In addition to the computers, the teacher carries a laptop to the school which is given to the

students for hands-on practice. The students are divided into a group of 4 or 5. After the teacher explains the concept, the students practice them on the computer/laptop.



The computers are also used to teach Mathematics and English to the students using the available interactive tutorials like ***National Library of Virtual Manipulatives***.

PUMS Ramancheri:

Our next stop was at PUMS Ramancheri, which is a middle school (Class VI to Class VIII). The students normally join the school after they complete Class V. So the students are expected to have knowledge in **Digital Literacy**. So the training will start for programming. In this school, a separate room is allotted for Asha for Education to take the computer classes. There are 4 desktop systems in the class. A teacher visits two days every week to train the students. The training is carried out by taking the help of

- ***CS Fundamentals Unplugged by code.org***
(<https://code.org/curriculum/unplugged>)

The lessons in which students are not working on a computer are referred to as “unplugged.” Students will often work with pencil and paper or physical manipulatives. These help the students digest complicated concepts in ways that relate to their own lives.

This is very useful since the students are engaged with the activities even during the time of power failure

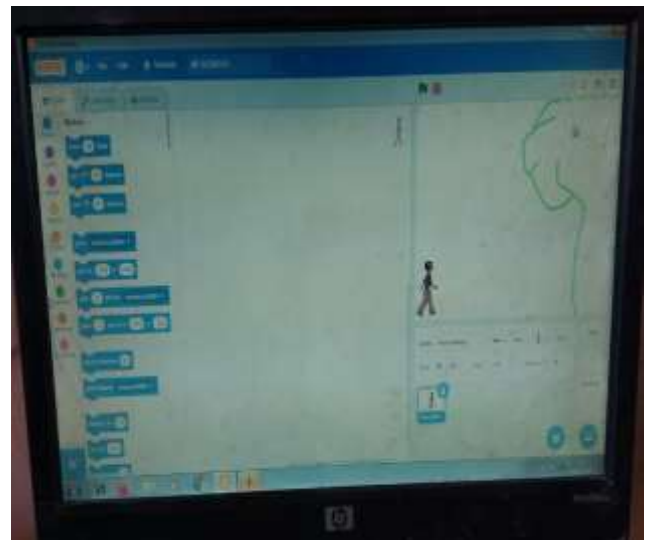
- **Scratch by MIT (<https://scratch.mit.edu/>)**

Scratch is the world's largest coding community for children and a coding language with a simple visual interface that allows young people to create digital stories, games, and animations. Scratch is designed, developed, and moderated by the Scratch Foundation, a non profit organization.

Scratch promotes computational thinking and problem solving skills; creative teaching and learning; self-expression and collaboration; and equity in computing. Scratch is free and is available in more than 70 languages.

- **Blockly by Google**

As the students are progressing, they are planning to use Blockly.



GHSS Kanakamma Chathiram:

This is a higher secondary school with classes from IX to XII. There are 4 desktop systems and 4 laptops in the room allotted for computer classes. The long term plan is that, the students studying in GHSS will be trained in programming languages, since they should have already completed Digital Literacy in Primary school and Introduction to programming in Middle school. Due the pandemic, the students in this school, could not complete these modules. So right now the students are trained in digital literacy. In the time we have spent in the school, we are able to observe that the students can demonstrate the usage of Paint, Powerpoint presentation with animation using Open Office very confidently. The students are also exposed to Unplugged activities by code.org. Two teachers are available in the class to teach and interact with the students.

**Rural Technology Centre(RTC) Kanakamma Chathiram:**

This Centre is established in a rent house about 1km from GHSS Kanakamma Chathiram. The Centre operates from 4:30PM to 6:30PM. The same teaches who teach in the GHSS school, come here to train the students. The centre has two classrooms with 6 systems. The RTC is run by Asha for Education and is funded by IITM Pravartak technologies. The activities in this centre are very recently initiated and Asha is in the process of finalizing the Curriculum. The broad idea is to train the students in High level programming languages. The students who are studying in GHSS and are interested can enrol in this Centre. No transportation is provided to the students after the class work is completed. We did not get a chance

to interact with the students in this Centre as we have to leave by 3:30PM to go to the next RTC located near Seethanjeri.

Rural Technology Centre(RTC) Seethanjeri:

A small house just outside government school is taken lease to start RTC Seethanjeri. This is a very remote location. It was 4:15PM by the time we reached there. The students started coming at 4:30PM after there is school is over. There were around 12 students and Computer teachers. The same teachers also teach Computer classes in GHSS Seethanjeri. **The working hours for the teachers are from 1:00PM to 6:30PM.** The students who have joined the RTC are from GHSS Seethanjeri and nearby schools. These students are not trained in Digital Literacy. So currently **Open Office** and **Unplugged activities** are being conducted for these students. We are able to observe that the students are actively participating in the Unplugged activities.





The teachers are anticipating difficulty to engage X and XII class students as they have board exams and their priority is to prepare for the exams. The schools also have extra classes and practice examinations for these students. So they want to concentrate more on IX and XI class students. The teachers also informed us that they have to learn Java and Python to teach the students.

Recruitment of Teachers:

The teachers are recruited by Asha for Education by **conducting an interview**. The selected teachers are trained before they are deputed to the schools. Each teacher will normally be allotted 2 or 3 Schools. The schedules are finalized by discussing with the respective HMs. The recruited teachers are initially deputed to the Primary schools. The teachers are then promoted to Middle school and Higher Secondary school based on their willingness to learn new things. The salary for all these teachers is paid by Asha foundation.

Currently, Asha for Education has adopted nearly 100 schools.

ASHA – KANINI Project (<https://kanini.ashanet.org/>):

Asha Kanini is an application developed by Asha Chennai, the Chennai chapter of Asha for Education.

The purpose of the application is to use technology to improve the quality of education at government schools serving underprivileged children. Asha Kanini is focused on helping teachers identify appropriate content for the particular lesson they are teaching and effectively use it to improve student learning. Asha Kanini is currently available on Windows and Android. It has been designed with the needs of remote rural schools in mind. Asha Kanini is currently available for Tamil Nadu and Uttar Pradesh State board curriculum.

In this application, the board syllabus is mapped to the available content, so that the content is readily available for the teachers.

We take this opportunity to thank the Management for permitting us to visit Chennai and learn about Asha for Education and Rural Technology Centres. We also thank Mr. Rajaraman Krishnan for spending the entire day with us and taking us around different schools and RTCs and helping us to interact with the local teachers and students. We also express our gratitude to Mr. Arokia Doss, Industry Liaison Officer, SVES, for guiding us through the entire day of events.

The following are actionable items after visiting the activities of Asha for Education under IIT-Madras Pravartak Technologies Foundation in Thiruvallur District, Chennai.

In our Vishnu School apart from the existing computer science syllabus the following concepts will be added to improve logical thinking.

1. Introducing Logical thinking and Digital Literacy in primary level
 - Unplugged activities - <https://code.org/curriculum/unplugged>
 - Open Office Tools
2. Improving problem solving skills in secondary level
 - Scratch - MIT <https://scratch.mit.edu/>
 - Blockly – Google <https://developers.google.com/blockly>
 - Web Designing - PHP

Prof. P. Venkata Rama Raju and myself with a team of CS faculty are going to develop content for our Vishnu School as an addon courses.