

Outcome Metrics for Sangamam Kanini

21st November 2015

The first phase of Project Sangamam Kanini has been implemented starting from early 2015. It gained momentum with funding from Oracle in May 2015. This document details the different methods we are using to track and evaluate the project. To the extent possible we are making efforts to objectively evaluate the success of the project rather than relying on anecdotal evidence like endorsement from teachers, students, etc.

The following sections describe each Outcome we are tracking, the methodology we will use to measure this and where we are currently on this front. Note that this is being written in Nov 2015 and we are only 6 months into the project.

Teacher and school buy-in of technology based learning

Methodology

Directly tracking the buy-in is anecdotal. i.e. This is based on endorsements received from Head Mistresses of the schools, the teachers who have received the laptop as well as students at these schools.

Objectively these can be gauged by looking under the metrics in the following sections.

1. Functioning of the computer labs.
2. Effective use of laptops by teachers we have given these to.

These show how the computers already in the school and laptops we have given are really being used.

Status at the start of the project

The need for computers and desire to use them in the schools was always there. Asha cannot take credit for this. However the teachers did not have the facilities or the knowledge to effectively use these.

Current Status

Anecdotally there is a strong buy in for this kind of effort towards using technology in improving education. Here are a couple of sample quotations.

Head Mistress and teachers from Kuppammal Chathiram: *As the computers were serviced and made functional, we are able to teacher the children using the CDs with audio and video. This is very useful for the school and we thank Oracle for this on behalf of our school.*

Vanitha (Asha teacher at Ammambakkam): *I used to long to use a computer. With the Asha laptop, I can now confidently use one. I am really happy to get the computer and Internet access. It is a great opportunity to learn. I feel as though now nothing can stop me. I have read about Oracle being one of the biggest companies. Such a company giving a laptop to a person such as myself is so remarkable. It is so useful to me and the children at the school. I thank Oracle from the bottom of my heart.*

Plans Going Forward

We will design a form to gather the opinions of the teachers and HMs anonymously. We will gather data about their opinion about the project.

Learning outcomes by evaluating student performance

Methodology

We designed assessments in English, Tamil and Maths to test all the basic concepts covered in the curriculum for all classes from 1st to 5th. Note the tests will not test what is in the text book but test their understanding of the learning objectives behind those lessons. The tests were about 1.5 hours in length for each subject.

Conducting these tests proved to be a challenge in several fronts:

1. There was rampant assistance provided to the students by the teachers and since we had distributed the question papers to the schools before the exam itself, in many school we found the students were coached! The data we obtained were good only in 6 of the schools (out of 15 schools).
2. Conducting these written tests for 1st and 2nd standard children was almost impossible. It would be better to have oral tests.
3. Even in higher classes often the children did not understand the question. i.e. We weren't able to test whether the children understood the underlying concept because the structure of the question itself threw them off!
4. There was resistance to an external NGO conducting large scale assessments across many government schools.
5. Grading the tests, entering that into the computer, analyzing the results were all way more time consuming than we anticipated.

Because of these problems we have changed the method to conduct term wise assessments in just English and Maths with the following things in mind.

1. Conduct it orally for 1st and 2nd stds.
2. There will be a portion of the test which will be exactly the same as or similar to ASER survey questions. This will help us get broad gauge of where the children are.
3. The more involved questions covering the entire curriculum will be divided between the three terms.
4. These will be conducted by the same set of teachers across all schools. They will take the papers with them and finish the entire school in one day and move to the next school.
5. Each test will only be for half an hour. So one class needs to take a test only for about an hour.

Status at the start of the project

Assessment was conducted in Maths, English and Tamil in April 2015. As mentioned earlier only data from 6 schools were reliable. The details of these assessments are beyond what can be shared here.

Current Status

We are about to conduct the term 2 assessments. We couldn't conduct the assessments in term 1. We expect to gain enough data by term 3 to gauge how the children are performing in basic Maths and English skills.

Plans Going Forward

Continue term wise tests and gain an understanding about the achievement of the students at all grades in all these schools.

Since we have also been actively teaching the children Computer Science, we are hoping to have a project for the students of 4th and 5th standard by the end of the year and probably have a small Computer Science assessment as well in term 3 to be done with the computer. This will help demonstrate how the children have been learning Computer Science.

Functioning computer labs in schools

Methodology

We have metrics on the total number of computers and the number of functional computers at each school, their network access. We are also in the process of gathering information on when the computers are used for accessing contents we have provided using the application we have provided.

Status at the start of the project and now

Here is a table showing the number of computers in each school in Jan 2015 and now. Note some of the repair work was started before Oracle funding of the project started.

School	Working computers in Jan	Non-working computers in Jan	Working computers in Nov	Non-working computers in Nov	Notes
PUPS Kuppammal Chathiram	1 Desktop PC.	2 Desktop PCs	3 Desktop PCs.		
PUPS Pattarai Perumbudur	1 Desktop PC.	1 Desktop PCs	2 Desktop PCs.		
PUPS Nemiliagaram	None	None	None.		
PUPS Gandhigramam	1 Desktop PC.	1 Desktop PCs	2 Desktop PCs.		
PUMS Ramancheri	1 Desktop PC and 1 laptop.	1 Desktop PCs	2 Desktop PCs and 1 laptop.		
PUPS Thomur	1 Desktop PC and 1 laptops.	1 Desktop PCs and 1 laptop.	2 Desktop PCs and 2 laptops.		
PUPS Allikuzhi	1 laptop.	1 Desktop PCs	1 Desktop PCs and 1 laptop.		The desktop PC was donated by Asha.
PUPS Placepalayam		1 laptop and 2 desktop PCs.	2 Desktop PCs and 1 laptop.	1 Desktop PC was condemned and replaced.	The desktop PCs were donated by Asha.
PUPS Ammambakkam	1 Desktop PC.	2 Desktop PCs	3 Desktop PCs.		
PUPS Katchur	None	1 Desktop PC	1 Desktop PC.		The desktop PCs were donated by Asha.
PUPS Kanigaiper	None	1 Desktop PCs	1 Desktop PC.		
CPS Odaikuppam	1 Desktop PC.	9 Desktop PCs	2 Desktop PC.	8 were condemned.	These were 10 year old computers

					donated by IBM.
CPS Shastrinagar	2 Desktop PC.	4 Desktop PCs	4 Desktop PCs.	2 were condemned.	

Over all we have moved from 12 working computers in these 13 schools to 30 working computers. Further the Asha teachers in these schools have a very good quality latest laptop with them that brings the total number of computers in these schools to 44. So there has been a dramatic increase in the number of working computers at these places. All the school computers have also been fitted with Wifi adapters to allow them to talk to the Internet through the teacher's Wifi hotspot.

Further at the start of the project even the working computers were not being used for most part because the government teachers were not comfortable using them. With our continuing training the Asha teachers at all these schools are also a lot more comfortable using the computers. We hope through constant exposure to these, many of the government teachers will also start trying out these computers and become comfortable using them.

At Olcott school the computer lab was already functional and therefore we have not done anything there as part of this project. At Olcott school they earlier weren't using computers in the classrooms. With our laptop donations, they are also using computers in the classrooms.

We currently do not have metrics to share on how frequently the computers in these government schools are being used. But we know from talking to the teachers that these are actively being used multiple times a week.

Plans Going Forward

At the moment we do not have statistics of how many of the 40 new schools we are proposing have computers and if so how many. We expect to maintain all these 40 labs and potentially get computer donations to set up labs at schools that do not have any computers. Another measure of success will be in see how we can get the government teachers to also use the computers in the absence of Asha teachers. This will be easier to test in the new 40 schools since there will not be Asha teachers permanently in these schools to help out.

We will continue maintaining the computer labs in all the existing schools as well. Further we also propose to expand the project to 7 schools we support near Senji and near Kovilpatti/Kayathar. We will maintain the computer labs in these schools as well.

Effective use of the Computers for Education

Methodology

We will start collecting usage data from the Asha application. This will help us validate the information that is given by the Asha teacher. We will be able to verify how often the various computers are being used to access the educational content provided by Asha.

Status at the start of the project

No teacher had their own personal laptops or network connection. See above for the state of the computers in the school labs. The computers were not being used much for education at all in all but a couple of schools. Here they were using the computers to show the kids contents provided by the government (SSA).

Current Status

21 teachers have their own laptops. They are using these for several purposes including,

1. Gain comfort in using computers and Internet. With basic training provided by Asha, they are gaining comfort esp. in office software, Email, Google search, Wikipedia, basics of how to use a Windows system etc.
2. Use it to show the students content provided by Asha. Allow the children to also use the computers to play games and other activities provided as part of the contents. The contents are used that are relevant for the class being taught.
3. Use it for some minimal personal use like purchasing train ticket, checking the news, etc.
4. Learning things relevant for their teaching. In particular the 8 teachers from Olcott Memorial are using the laptops to take a course by British Council on English. Rest are also learning English from other sites, and visiting all the content sites we are selecting for them like (nlvm, phet, mathisfun, englishforeveryone, etc.) Further contents provided (esp. Maths instructions and English lesson recordings) are designed to help the teachers improve their teaching.
5. Identifying new websites and new ways of teaching children.

Plans Going Forward

By next project year about 40 teachers will have laptops. In addition to the previously listed points, they should also use them for the following purposes.

1. Learn and teach minimal programming using Logo, Snap, Scratch etc.
2. Interact with other teachers in an online forum which Asha will setup for them.
3. Collect and use information about their students using the assessment related applications provided by Asha.

Content and Content delivery

Status at the start of the project

Schools had access to content from the government. But these were in the form of CDs which were mostly not working.

Current Status

All the teachers laptops have the following content available:

1. Simply English.
2. ECTAL developed by Asha Chennai.
3. English lesson recordings.
4. Khan Academy Tamil videos.
5. E-Speak.
6. One Stop English games.
7. StarFall English phonics animated videos.
8. Toon Masti.
9. TN text books soft copy.

These contents are all available through our own AshaApp. These contents have been mapped to the Samacheer Kalvi curriculum.

Plans Going Forward

Several additional contents are planned including,

1. Maths instructions.
2. English worksheets.
3. PhET.
4. General videos/contents on the web (esp. YouTube).
5. NLVM.
6. Azim Premji Foundation CDs.
7. Hello English.

Software enhancements will include:

1. New software for read along of text.
2. Make access to lesson specific content easier and preferably through QR code or scan code.
3. Enhancement to support online assignments and worksheets.
4. Customisable content views to enable teachers to customize what they see for a lesson.