Experiencing the Aah! Aha! Ha-Ha!

Annual Report
2014-15
Another year has flown by, and the Agastya approach to teaching and learning has evolved and developed tremendously. Each year teaches us something new, and this year was filled with important lessons for us all.

Agastya in partnership with the Infosys Foundation embarked on a new journey this year, a program to bring in a ‘Constructivist Approach’ to science teaching. This program was created to train teachers from government schools on how to incorporate the pedagogy of Constructivism in their classrooms. 'Constructivism' was mandated by the National Curriculum Framework (NCF 2005, NCFTE 2009) and outlined by NCERT, and the Department of Education. The focus of the approach is to allow students to generate knowledge and meaning from an interaction between their experiences and their ideas. In science education, this translates to students actively engaging in hands-on activities and experiments, while building their ideas around them. Agastya strongly believes in the force multiplier effect that the training of teachers has on the education system, and with this in mind, 129 teachers from Maharashtra benefited from the first iteration. The launch of this program was truly a dream come true for Agastya, and we are delighted that the Infosys Foundation decided to partner with us on this endeavor.

Another momentous launch this year was in partnership with GE-Abhivyakti, an analogue photography program to empower girls! This one-of-a-kind initiative takes children through the principles of light, building a pinhole camera, the basics of photography, and well as developing pictures in a dark room. We found that photography was a great way for the young girls to unleash their creativity, and explore their seemingly simple surroundings. We were spellbound by the outcome of Abhivyakti, the children captured some incredible images from their simple film cameras!

The Lab-on-a-Tab, developed in-house at Agastya, is a blended learning platform we piloted this year. It is another example of how Agastya is innovating and designing newer and better solutions to problems in education. The LoT is an independent learning tool that is self-paced to suit learners with differing abilities. It combines the excitement of technology and animation with the fun and engagement of hands-on experimentation.

We look forward to another exciting year of being curious and creative, and we wish you to be a part of our education revolution!

Ramji Raghavan
Introduction

Founded in April 1999, Agastya International Foundation, is a charitable education trust that runs one of the world's largest mobile hands-on science education program for economically disadvantaged children and teachers. Through all its programs, Agastya has reached over 6 million children and 2,000,000 teachers from 16 states in India.

Agastya Mission

Spark curiosity and propagate a creative temper in disadvantaged children and teachers through:
- Experiential, hands-on science education
- Teacher training
- Scalable and sustainable methods

Agastya Vision

An India of "creators, tinkerers, solution seekers and leaders who are humane, anchored and connected"

6 million children

2,000,000 teachers

16 states

Aah! Aha! Ha-Ha!
Agastya has been making practical, hands-on science education accessible to rural government schools, through its unique principle of the ‘Hub and Spoke Model’. Agastya’s Science Centre is a ‘HUB’ where experiments are exhibited for students and teachers from nearby schools and localities to visit. At the same time, the Mobile Labs and Lab on Bikes have acted as ‘SPOKES’ reaching out to students and teachers in more remote areas.
Campus Creativity Lab

Agastya’s unique 172-acre campus located at Kuppam, Andhra Pradesh is a cradle of creative learning, a “factory of ideas”. The campus that impacts thousands of children every year (and approximately 500 children a day) boasts of multiple Science Labs, a Model-making Workshop, Art and Ecology Labs, a Discovery Centre, an Innovation Hub and a Teacher Education Centre. Government school teachers and children visit the Campus, and are given the opportunity to interact with simple science experiments and models. The Centre acts as a resource centre and a venue for Teacher Training, Young Instructor (YI) training, Summer Camps and Science Fairs. Special training activities like Project Based Learning (PBL), Discovery Based Learning (DBL), and Integrated Learning are also conducted. The Campus is a space for children to perform experiments, learn to make simple models with easily available low-cost materials and participate in team-based projects. Through the campus’s centres and activities, a staggering 7.9 lakh exposures were generated among children and teachers.
Agastya proposed to establish the Innovation Hub to provide a space for ‘Innovation learning’s’ in the fields of STEM (Science, Technology, Engineering and Math), Environment, Art and Entrepreneurship. It will be a joint initiative between National Council of Science Museums (NCSM), Agastya International Foundation and Cisco.

‘RasayanaShala’ (Chemistry Lab) and Maritime Center were the latest additions to Agastya’s Campus. The Chemistry Lab was inaugurated by former director of Atomic Energy Commission of India, Dr Anil Kakodkar. The Maritime Center gave children the opportunity to experience concepts related to navigation at sea.

A Conceptual garden, ‘Nakshatarvana-Rashivana’ was designed on Campus keeping in mind each constellation of the zodiac and trees were associated to them. The trees which were planted in the park were rich in medicinal, social, aesthetic or economic value.

Zero Budget farming was a new initiative on Campus which involved combining ecology and modern technology with traditional farming practices. The children at campus were exposed to the certain key elements of Zero budget farming including crop rotation, green manures and compost, biological pest control etc.

Camps@Campus, a two-day camp, was held for over 25 families who wrote to us. Schools that visited the Campus included Rishi Valley School and Ashok Leyland School, Bangalore. At the Camp, they had a first-hand experience with Agastya’s world class facilities.
Science centres

Agastya’s Science Centre utilizes science experiments and models to deliver hands-on sessions to government school children and teachers. Children are given the opportunity to interact with simple science experiments and models. From a mere 14 Science Centers in the year 2008, Agastya has now expanded to a whopping 47 Science Centers. With support from corporate donors and SSA (Government of Karnataka) the program has achieved over 6 Lakh student exposures and 22,000 teacher exposures.

Core Science Activity Centres
To create a Model Eco System in hands-on-Science teaching and learning, Government of Karnataka has commissioned four Core Science Activity Centers (CSACs) in the districts of Bijapur, Bagalkot, Bidar and Shimoga and an Integrated Mega Science Center at Hubli. The CSACs in Bijapur and Bagalkot were launched this year and has achieved over 30,000 student and 1,500 teacher exposures. The other centers are expected to start the operations in the coming year.
Science Center
Mobile Labs

116 Mobile Science Labs
Art on wheels
800 exposures
Math on Wheels
11,000 exposures
iCommunity
1,933 exposures

Beginning with one Mobile Lab in 1999, Agastya has over 116 Mobile Labs traveling to the doorstep of government schools with 150+ hands-on science models covering a wide range of topics in Physics, Chemistry, Biology and Math for Classes 5 through 10. These programs have also conducted science fairs, teacher training sessions, trained Young Instructors (YI) and reached out to community members through night community visits.
Science on Wheels

Better known as Agastya’s ‘Science on Wheels’ program, this program has been recommended by the National Knowledge Commission for a Nationwide scale-up. With support from donors such as NTPC, Ingersoll Rand and World Bank Agastya was able to make hands-on science accessible to children from rural regions of Bihar, Jharkhand, Orissa and Meghalaya.

Math on Wheels

With a view to introduce Financial Literacy to children, Barclays supported Agastya to introduce Mobile Math Labs in Chennai, Pune, Mumbai and Delhi NCR. The program covered topics on money and finance, banks and their functions and how money works thereby helping over 11,000 children from government schools to understand concepts of income, expenditure and savings and the importance of household financial planning.

Art on Wheels

Creativity can be nurtured on a haphazard or accidental basis through virtually any activity. However, Agastya believes that creativity can and should be actively harnessed, directed, and promoted. Through various art lessons and workshops, Agastya’s ‘Art on Wheels’ programs have ensured that over 800 children have returned to their schools brimming with energy and eager to begin their road to self-discovery.
Ecology Labs

In order to enhance Agastya’s efforts to spark curiosity and spread humanity through ecology, an Eco-Lab was launched. A successful pilot ran for four months in which children learned to perceive the environment around them from a sustainability perspective. In partnership with the Selco Foundation, the Sustainable Science Lab program is now being scaled up with more students from the 6th to 9th standards participating in the program for a tentative period of five years around Muthur village, Chickaballapur.

iMobile Lab

The Dell sponsored iMobile Lab Program is running successfully for the third year in Noida, Coimbatore and Bangalore. Over the last academic year, ICT skills such as basic use of productivity software and internet applications were imparted to over 1,300 children. This program addresses the lack of science and computer labs in underserved schools and focuses on an integrated digital curriculum which is used alongside hands-on science lessons. Emerson now supports an iMobile program in Pilani, acknowledging this blended approach.

iCommunity

Supported by the MurthyNayak Foundation, Agastya launched the iCommunity Mobile Lab which has encouraged children to apply their knowledge to understand local issues by combining Digital Literacy and Experiential Learning. The program primarily provides Digital Literacy to six of our Operation Vasanthan Centers (Evening Community Outreach program) and promotes Project-Based Experiential Learning. Solar Panels are used to charge all the required equipment which is not only sustainable for energy consumption but also an indefinitely renewable energy in the process.
Lab on a Bike

Lab-On-A-Bike (LoB) is an innovative new initiative, combining at once the compactness, portability and modularity of Lab-In-A-Box (LIB) with the mobility of a motor bike and the teacher who rides the bike. Consolidating on the past successes of the Pilot Program, the LoB was launched in Karnataka and Haryana, thus widening the reach of the program. There are 20 LoBs that are currently running along with 9 others that are in progress. The program has delivered 71,093 student exposures and 2,433 teacher exposures. Additionally, the LoB has also allowed us to expand to new areas like Pune, where we started the LoB program with support from Mindtree. We plan to scale up operations of the LoB program across India, in the coming year.
Lab on a bike

Lab-In-A-Box

Lab-In-A-Box (LIB) is a unique concept designed by Agastya out of many years of experience to facilitate scale-up through teacher engagement. Agastya follows a rotation scheme of distribution, involving ten schools at a time. The program is currently supported by donors such as Edelgive Foundation, kSTEPS (Government of Karnataka), BHEL etc. Currently, Agastya has 105 LIBs running successfully across the country, generating 9,41,266 student exposures and 19,199 teacher exposures.

TechLaBike

The TechLaBike project was flagged off from 4 locations in Haryana in the presence of district education authorities. This revolutionary program went on to win Google’s Global Impact Award for bringing science education and digital literacy to the doorstep of village schools. Agastya has 30 TechLaBikes in circulation nationwide with the help of the Google Grant and plans to expand the project with time. With these TechLaBikes, Agastya has generated 1,16,515 high impact exposures for children.
Lab-On-A-Bike
Science Fairs

Agastya's Mega Science Fairs bustle with intellectual exchanges between thousands of exuberant students and teachers who field questions from peers, teachers and subject specialists. They serve as a platform for Young Instructors (YIs) to build their confidence and improve their communication skills by demonstrating models and concepts to their peers and teachers. Mega Science Fairs were conducted in 27 different locations across Karnataka in the year 2014-15. In the South Karnataka region alone, YIs from 93 schools participated in 19 Mega Science Fairs, and created 79,522 student exposures along with 2,572 teacher exposures.

Mini Science Fairs are conducted regularly through Agastya’s flagship programs like Mobile Science Labs and Science Centers. These Fairs are conducted across the country, giving students an opportunity to showcase their creativity and learning. Through the Mega and Mini Science Fairs, Agastya has been able to further its impact by delivering 4,54,847 student exposures as well as 94,756 teacher exposures.
Agastya International Foundation held ‘Jignyasa’, an innovation fair, with a focus to educate and inspire school-going children between 7th-9th Jan 2015 at the Nehru Stadium in Hubli, Karnataka. The event saw young enthusiastic participants from different parts of India showcase over 110 exhibits, out of the total 2,832 exhibits which were submitted. The event was visited by 18,018 students, teachers and members from the general society. The exhibits by children from schools all over India were eye openers on various topics related to Green Energy, Innovation in Transport, Communication, Agriculture, Technology, Biodiversity & Mathematical Modeling. Through Jignyasa, many students participated in competitions like ‘Kaun Banega Vigyanpati’ and ‘Show Your Talent’.

Synopsys, India, and Agastya International Foundation hosted the fourth edition of Anveshana in Bangalore and the second edition in Hyderabad in the months of February and January respectively. The two-day innovation fair was an amalgamation of science and creativity, enabling mentoring between engineering and school students.

Across the two locations, 429 models were created out of which 84 models were shortlisted for final prototyping and evaluation. Around 1,450 engineering students mentored 1,050 children, on model making. Some of the award winning projects at the Fair were, Bluetooth Rover, Density-based Traffic Control, Thermoelectric Refrigerator etc.
Science Fairs
Young Instructor Leaders

The program achieved phenomenal acclaim exhibited by the awards won by the Young Instructor Leaders (YILs) at ‘I Can Change’ (a competition by Design For Change) and Intel IRIS. The YIL program continues to give scholarships for alumni. The critical elements which made this program a success are:

Peer-to-peer learning methods: Young Instructor Leaders explained scientific concepts at Science Fairs which served as a platform to encourage them to share science concepts with their peers.

Experiential Learning: Agastya used simple, counter intuitive experiments, models, stories and discussions to create surprise, delight, enthusiasm and joy in learning which have promoted enquiry and hands-on interaction.

The program through kinesthetic, activity and project-based learning has helped children in building confidence, gaining knowledge, improving retention and increasing motivation. Over 6,000+ Young Instructor Leaders have taken initiatives in their communities such as creating awareness on the importance of educating the girl child, cleanliness/hygiene, water and energy conservation.
Young Instructor Leaders
Operation Vasantha

Operation Vasantha has been impacting the lives of disadvantaged rural children since 2009. With a motto of “for the community, by the community”, Agastya successfully operated 260 centers nationwide. At these centers, children were engaged every evening in sessions on science, mathematics, ecology and reading to spur them to return to school. Additionally, volunteers provided academic support to those students who were already enrolled in schools. The volunteers at the centers also actively engaged with community members in monthly meetings on issues such as health, hygiene, dispelling superstitions etc. Besides targeting children and community members, teacher trainings were also conducted here. The Operation Vasantha centers are spread across Karnataka, Andhra Pradesh, Maharashtra and Gujarat and has generated 15,55,916 student exposures and 274 teacher exposures. Agastya is confident that in the coming years, Operation Vasantha will undoubtedly fulfil its objective of motivating more youths to take responsibility for their communities and become catalysts for social change.
Teacher Training Programs

4,17,311 Teacher Exposures

IBM
858 teachers have been trained

Infosys
123 teachers + DIET faculty

Agastya takes pride in hosting intensive training programs and workshops for instructors not only from within Agastya but also for teachers from government schools across the country. 4,17,311 teachers got exposed to Agastya’s methodology of teaching. The training programs mainly focus on low-cost model making and hands-on learning with the set objective of improving creativity in the method of teaching as well as creating a holistic and interactive atmosphere in the classrooms susceptible to the children learning science and math in school.

Agastya has also collaborated with the governments of regions like Maharashtra and conducted programs with them where the government school teachers were exposed to the innovative learning methods, that can be used to make science and math more interesting for students.
Teacher Training Program
The Lab-On-A-Tab (LoT), was initiated to create a unique learning environment by loading a tablet PC with enriching content on science. By combining hands-on education with technology, the Lab-On-A-Tab was yet another unique program that furthered Agastya’s mission to spark curiosity and nurture creativity among school going children in India. The pilot LoT program was carried out in partnership with Lenovo, India, in March 2014, with students and teachers of nine government schools across Bangalore and Kuppam in collaboration with Lenovo.

The program ‘Abhivyakti’ meaning ‘Self Expression’, envisaged teaching the art of photography, using hands-on science and math concepts. Agastya’s MediaArts team traveled to schools in different parts of Karnataka and Kuppam to conduct this program. It improved the classroom learning environment, and provided for more productive student-teacher interactions, more hands-on learning opportunities, and higher levels of curiosity and creativity. With the support of GE India, the project has managed to create about 3,010 exposures among children in Karnataka and Kuppam.
Having been a teacher, Mrs Sudha Murty of the Infosys Foundation, has an unshakeable belief that education is the only real, long-term change agent. Infosys Foundation offered to support a series of 4-day workshops through which 120 teachers from Government schools of Maharashtra learned the unique pedagogy of ‘Constructivism in Hands-on Science & Math Teaching’ at Agastya’s Campus Creativity Lab, Kuppam. The focus was on promoting productive student-teacher interaction, participatory classroom learning environment while improving ‘learning-how-to-learn’ attitude, creative-thinking and problem-solving skills of Govt. school children they teach.

‘Nava-rachana’ or the Innovation Hub aims to provide a space for ‘Innovation learning’s’ in the fields of STEM (Science, Technology, Engineering and Math), Environment, Art and Entrepreneurship among economically underprivileged children of rural India through a unique Project Based Learning approach. Agastya proposes to establish the HUB in its 172 acre campus at Kuppam, Andhra Pradesh, India. It is proposed as a joint initiative of National Council of Science Museums (NCSM)-Ministry of Culture, Government of India, National Innovation Council, Agastya International Foundation and CISCO.
What's New
Agastya acknowledges...

SOME EXISTING SUPPORTERS

SOME NEW SUPPORTERS
In the past years, the participation of volunteers has immensely increased, and they are the unsung heroes who are contributing to Agastya’s success.

Volunteering Events were conducted in Coimbatore and Bangalore for DELL employees.

Ms. Aruna Vayuvegula has helped subtitle over 150 videos that are on our YouTube channel.

Mr. Geethasai Krishna, student from NIT Warangal and Mr. Janardhan, student from BITS Pilani helped us to catalogue hundreds of books onto our Library Management System.

Ms. Nisha, an intern from School of Media and Cultural studies, TISS was instrumental in helping the Media Arts team with the production of videos to be used in the TechLaBike Project.

A group of employees from GE & VMWare also visited our Campus for a 2 day volunteering event.

Mr. Sankeerth, working with Samsung India helped with putting together a handbook on 'Best practices for online fundraising'.

Ms. Ananya Hariharian, Mr. Shubham, students from NIT Warangal and Ms. Hemani Kalucha, student of Dhirubhai Ambani International School, Mumbai helped in developing content for the Lab on a Tab (LOT) Project.

Cargill (Across Globe) volunteers visited the Gurgaon Science Center.
Volunteers
Who Visited Us?

Dr. Sneh Lata, Director, SCERT inaugurated Mobile Labs and Lab-In-A-Box Program Gurgaon, Haryana.

Mrs. Sudha N Murty, Chairperson, Infosys Foundation visited Agastya's Kuppam Campus.


Ms. Gabby, Vice President HP (World) visited the Science fair, held at Electronic City, Bangalore and interacted with our Young Instructor Leaders (YILs)

Nobel laureate Kailash Satyarthi and Mr. Kris Gopalkrishnan, Co-Founder, Infosys, visited Agastya’s Integrated Mega Science Centre in Hubli along with Mr. Naveen Jha, the CEO of Deshpande Foundation.

Deb Bauer Director, Dell Giving (CSR Initiative) visited our Mobile Lab.
Visitors
Six YILs participated in a Regional Science Fair organized by the Science Society of India and Vagdevi Vilas School in Bangalore, and 3 science projects went on to win silver medals.

Two of Agastya’s students presented projects at the Google Science Fair, 2014, and were shortlisted among the Top 90 projects across the world making us regional finalists.

For the 7th year in a row, Agastya students participated at the annual Intel IRIS competition. Two of Agastya’s students won Silver medals for their projects.

One of Agastya’s projects “Energy from Musa Acuminata” was nominated in the International Science Fair for high school students “I-SWEEEP Olympiad, which was held in Houston, TX.

Agastya participated in the Escape Velocity Science fair held at Oakridge International School, Bangalore where around 2,000 students visited the fair from schools across Bangalore.
Achievements
Increase in college admissions, participation in science projects and competitions, demand for school labs and hands-on learning indicate that Agastya’s programs are positively impacting the lives of disadvantaged children.

**Nurturing good partnership with government to Maximize Reach**

We are in constant touch with educational authorities and are trying to nurture good relationships with capable officials and consultants who are part of these bodies across various states of India.

**Deepening the Impact**

Agastya plans to scale-up the Teacher Training Programs to other states such as Odisha and Karnataka. The program would also inspire teachers who spearhead a force-multiplier effect facilitating enquiry based learning/project based learning.

**Partnerships with Corporates and Academic Institutions**

Agastya aims to expand its programs to other rural regions with the support of Corporates through their CSR initiatives and partner with universities and institutions for programme design and inputs.