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Agastya International Foundation: Sparking Creativity in Rural India

Summary

Agastya International Foundation was founded in 1999 with the mission of disseminating quality, hands-on science education to students in remote rural areas of India through their unique 'science-on-wheels' model. The chairman, Ramji Raghavan, believed that Agastya was ready for a nationwide rollout through a more structured and integrated model. Yet, he was uncertain on how to approach such an expansion.

Keywords

Agastya International Foundation | Rural Education | Scalable Expansion | Lean Innovation | Centralized and Decentralized Business Strategies

Learning Objectives

- Value at the bottom of the socio-economic pyramid
- Blue Ocean strategy
- Scaling strategy
- Standardization and customization
- Building a revenue model
- Measuring social impact
- Value of mentorship

It was a bright, warm day in the fall of 2015. Ramji Raghavan, the chairman of the Agastya International Foundation, ambled across the hall, inspecting the intricate contraptions that the children were experimenting with. There was much buzz and excitement in the air, with teachers and students giggling at the magic and allure that science had to offer. To his right, Raghavan noticed three girls constructing a windmill with plastic Lego bricks. He marveled at the dexterity with which they assembled the tiny pieces into a two-foot-tall working model. The girls were ecstatic on reaching this milestone and Raghavan felt a vicarious sense of accomplishment.

As he gazed out the window to observe the bucolic setting of the village, he couldn't help but feel a tinge of satisfaction, and rightly so. In fifteen years, Agastya had established a vast network of trained teachers, travelling on vans and bikes remodeled to mobile science labs, and had transformed the lives of nearly eight million children in rural areas. As Raghavan felt the light summer wind making its way amidst the trees of the garden, he reminisced about Agastya's early years, when there was just one tractor driver trained to be its first mobile science lab instructor. A lot had been accomplished since then, and a lot more still needed to be done.

In the 1990s, as an investment banker in London, Raghavan's prospects in finance were promising. But in a defining moment, he managed to do the unthinkable: he quit his job and moved back to his homeland to realize his childhood dream of setting up a school in India. In 1998, Raghavan collaborated with a team of India's top scientists and devised a model to bring creative, hands-on methods of teaching science in Indian villages. And hence, Agastya was born in April, 1999.

Agastya gathered momentum when its 'commitment to action' was recognized by the Clinton Global Initiative in 2008. In 2012, former Indian President Dr. Abdul Kalam inspired an audience of 2000 children at Agastya's campus in Kuppam and advocated the foundation's cause. A year later, Agastya won the Google Impact Award for its cost-effective, scalable network of science labs on motorcycles. In 2015, the annual budget was nearly INR 30 crore and was largely funded by businesses, foundations, trusts, public donations, and Indian state governments (**Exhibit 1**). By March 2015, Agastya had transformed the lives of nearly 8 million students and 200,000 teachers.

While Raghavan was happy with the foundation's success and pleased that Agastya was helping to narrow India's educational divide, he was unsure of the best path for future growth. Agastya was dominant in Karnataka, but was spread thin in the remaining fifteen states. Raghavan had to craft a scalable strategy to reach 50 million children in rural India by 2020. The Board of Trustees had no doubt that Agastya needed to expand rapidly. But it was divided over one question: "How?"

India's Education Crisis

In the 2000s, India was in the middle of a demographic transition, with nearly 41 percent of the population under the age of 19.[1] The country was relying on its young to foster economic growth. This demographic dividend had the potential to increase India's per capita GDP growth by about 2 percentage points annually, for another 20 years.[2] But, without the right policy framework targeted at education, India's human resource could steadily degenerate into a massive liability.

Policy makers understood the importance of education in every aspect of human development. The Supreme Court of India enforced the Mid-day Meal Scheme in 2001 to provide nutritional support to poor children, prevent absenteeism, and improve academic performance in rural schools. Also in 2009, the Right to Education Act was designed to guarantee quality education to all Indian children between the ages of 6 and 14, and was a fresh push towards achieving the government's long-term development goals.

Sadly, the reforms had failed to impact the poorest children, especially those in rural areas. The performance of public schools, where nearly 70 percent of all children study, had been dismal.[3] In 2009, the Programme for International Student Assessment of science, math, and reading abilities of 15-year-olds in 74 countries offered up a distressing take on the state of India's learning. India ranked second-to-last, beating only Kyrgyzstan.[4] More than 50 percent of the children enrolled in fifth standard in public schools couldn't read second standard level text; 64 percent of them couldn't solve basic level division problems.[5]

In 2015, the Indian government began conducting a much needed review of its education policy. The aim was to develop a strategy better suited to the changing demographic dynamics in order to bridge the education gap and ultimately make India a knowledge superpower. While most government officials had made a convincing case to open more schools and lower pupil-to-teacher ratios, few felt the need to completely revamp the existing system of learning.

Raghavan believed the problem lay not so much in the number of schools as in the quality of education. He understood that a culture of rote learning, examination fear, and textbook-based studies was rife in the Indian education system. Such a system wasn't promoting deeper learning and was stifling the curiosity of children at an early age. "Education was mostly theoretical, based on lectures; there was very little hands-on interaction," explained Raghavan, "Through hands-on experience you learn much more, you remember much better, you become curious and eventually creative." That was the rationale behind Agastya's focus on interactive, experiential learning through practical science experiments.

The Story of Agastya

Early 1998: A New Purpose

In the midst of the financial 'Big Bang' in late 1986, Raghavan was working with Citibank in India, Puerto Rico, and New York. Later, as a senior executive at Cedel Group, Raghavan was living a lavish lifestyle in London's posh Kensington neighborhood. "I was like any other young M.B.A. yuppie trying to make it," explained Raghavan. "But I was restless. I felt an inner urge to do something more meaningful." In 1998, he shared his unease with his friend, Gopi Warrier, the chairman of the Ayurvedic Company in Great Britain. "Gopi told me that I lived in a closed world where I would never find happiness. He asked me to get in touch with reality," explained Raghavan.

After weeks of rumination, Raghavan found his calling in education. He had always been inspired by Krishnamurti's ideas on education that centered on learning by evoking the senses, feeling joy, and nurturing creativity. Raghavan remembered a fortuitous encounter in 1979, when he and his father chanced upon Krishnamurti at

Delhi airport. Raghavan expressed his discontent with his job, to which Krishnamurti responded, "Get off before you have your nose completely in it," and walked away. Raghavan explained, "There was something magical in that statement and when I saw him going, I said to myself–here goes a free man!"

Initially, Raghavan had planned to establish a school similar to his alma mater, Rishi Valley School in Andhra Pradesh (AP), for promoting creative learning. But after much deliberation with his father, he concluded that they needed something of a much larger scale if they were to reach millions of needy students in rural India. He explained, "Raising the level of the ocean–the 200 million children–even by a millimeter perhaps would make more sense than filling a bucket by creating a pool of 200 elite thinkers."

His uncle, Dr. P.K. Iyengar, former chairman of Atomic Energy Commission, persuaded him to start a movement and fundamentally change the education system. Iyengar explained, "That was something where we as scientists and policymakers had dismally failed–in disseminating scientific temper to the masses of India". His view, that rural India could be transformed by injecting scientific thinking into the villages formed the bedrock of Agastya's mission.

Late 1998 to Mid 1999: Birth of Agastya

After moving to India in 1998, Raghavan deliberated with educators, scientists, and students in India to devise a strategy for Agastya. He explained,

> We asked questions like–'What is creativity? What's the basis of creative thinking?' We came up with a model. A lot of creative people tend to be very good observers. There's a process of awareness of the brain, there's a capacity to assimilate, integrate, and associate different strands of information to produce something new and different. And finally, there's the ability to apply all this to produce something, whether it's an idea or a product or a service. All this rests on the foundation of curiosity.

Therefore, the team decided that the foundation's mission would be to spark curiosity (see **Exhibit 2** for team bios). They believed it could only be achieved through hands-on, experiential learning rather than the traditional 'I talk, you listen' approach.

"That's how the idea of a modern science center in Kuppam–which would welcome hundreds of children from neighboring government schools every day for empirical science education–was born," explained Raghavan. More than a foundation, it was a movement to raise the scientific temper of the nation's children and was aptly named after the great sage Agastya from Hindu mythology, who is symbolic of creative learning, knowledge, and resilience.

With this vision in sight, Raghavan and co-founder Mahavir Kumar, former president of the Karnataka Stock Exchange, registered Agastya as a charitable trust in 1999. They approached Mr. Chandrababu Naidu, the then Chief Minister of AP, who sanctioned 172 acres in Kuppam district of AP in early 2000 for the dream creativity campus. The Agastya movement was beginning to take shape. Two years later, Raghavan met Dr. Yellapa Reddy, environmentalist and former Indian Forest Service officer. In a campus tour, Raghavan showed him some of the trees he had planted. "What do you think?" Raghavan asked. "It will be a disaster," Reddy quipped.

Little did Raghavan know back then, that Reddy would be instrumental in transforming the barren landscape into an ecology park teeming with over 600 plant species, 80 bird species and 50 spider species. Oberoi and Jhunjhunwala Foundations funded this restoration 'experiment' while Jain Irrigation Systems worked on trenches and check dams. Professors from the University of Agricultural Sciences in Bangalore frequently visited the campus and helped develop it further. Among them were botanists, entomologists, ornithologists, and apiculturists. The campus had become an exemplar on eco-restoration for scientists from universities like the Indian Institute of Science, Bangalore.

Late 1999 to Early 2000s: Blessing in Disguise

The team hit a snag in 1999 when their funds dried up before the construction of the Kuppam campus. Also, donations dwindled because of the dot-com bust, adding insult to injury. Raghavan held meetings with his trustees to chart out an interim plan. They discussed, "While we wait for money to build the buildings to attract the students and teachers to the campus, let's take the education out to the villages... How about a mobile science lab?"

Raghavan's friend at Hindustan Motors lent him the first van for the initiative. It was laden with science experiments made of low-cost items like coat hangers, plastic bottles, strings, and even potatoes donated by the Mumbai-based Homi Bhabha Centre for Science Education. Balaram, a tractor driver in Kuppam, was trained to be the first mobile lab instructor and was sent to schools in nearby villages. The responses were surprising, explained Balaram, "At first, they thought I was a missionary and ran away. But they came back on seeing this little trunk full of experiments and got engaged, and asked a lot of questions… I didn't realize that teaching could be so much fun!" That was the turning point for Raghavan and Agastya. The initial lack of capital had adventitiously led them to uncover a cost-effective way to deliver education.

Much of the project's success could be attributed to investor and philanthropist Rakesh Jhunjhunwala, who provided the funds it needed to expand. "He found the idea very lateral, and to his credit, he envisioned them all over India," explained Raghavan, "I went to him with a plan and said we needed INR 90 crore." Just when Raghavan thought nobody would ever commit money of that magnitude, Jhunjhunwala signed a ten-year contract to invest INR 50 crore and joined the foundation's board. "I gave a small amount at first but when I saw Raghavan's dedication, I gave more," explained Jhunjhunwala.

Mid 2000s: A Eureka Moment

Over the years, Agastya emerged into a sprawling network of mobile laboratories dedicated to hands-on teaching. The Kuppam campus included laboratories, a planetarium, an open-air Ecolab, and a Discovery Centre, among a host of other facilities; the Discovery Centre was based on the Exploratorium in San Francisco, California (see **Exhibit 3** for photos of the Kuppam Campus). In 2005, Agastya signed a landmark contract with Karnataka's state government under the Sarva Shiksha Abhiyan (Education for All Scheme), wherein the operational expenses of 30 of the 39 mobile labs running in Karnataka would be reimbursed by the government.

In October 2007, Raghavan initiated Agastya's game-changing Young Instructor Leader (YIL) program. The idea was that students remember nearly 90 percent of what they teach, 30 percent of what they observe, and 5 percent of what they hear.[5] In just

one year, 1011 students were trained to demonstrate experiments and explain concepts to their peers in Agastya's science fairs. Raghavan approached Uma, a top-performing YIL, and asked, "You have been visiting Agastya for several months now, has there been any change?" Uma replied, "I am not afraid to speak anymore." That was a joyous moment of discovery for Raghavan, as he explained, "I realized that the real value of our hands-on interventions was the precious opportunity they gave disadvantaged children to lift their confidence and self-belief, to shift from what psychologists call 'learned helplessness' to 'learned optimism'."

2008 to 2016: A Revolution in the Making

In 2008, thousands of people had congregated at Agastya's first Mega Science Fair in Hubli, Karnataka. In the next seven years, 45 more fairs were organized all over the country. These events were opportunities for YILs to not only develop their communication skills by demonstrating scientific projects, but also to develop decision-making abilities by taking up crowd management responsibilities (see **Exhibit 4** for photos from the Science Fairs). Two girls, also YILs, won the IRIS-Intel National Fair Award in 2008 for their project on the 'Cooling Effect of Leaves,' competing with the best from urban schools. They set a trend that other students followed in subsequent years.

Agastya made steady headway to other states in western and northern India. To fund the growth, it strategically forged alliances with corporates and social foundations. Agastya benefitted from a string of donations and sponsorships in 2010 and 2011 amounting to INR 5 crore. The donors comprised 6 foundations including the Deshpande and Oberoi Foundations and 18 corporations including State Bank of India, IBM, and Larsen & Toubro. In October 2014, N.R. Narayana Murthy, co-founder of Infosys, and Sudha Murthy, chairperson of the Infosys Foundation, dedicated funds to train government school teachers and instill constructivism in their pedagogy. "Inspiring teachers is the best way," explained N. Murthy, "because teachers have a multiplier effect."

As of January 2016, Agastya had 138 mobile lab vans, 50 labs on bikes, and 60 science centers across sixteen states in the country. It had 800 teachers, including 280

night-school volunteers. Agastya's business model was then being recognized worldwide as one of the most innovative science education programs.

How Agastya Worked

Agastya's approach to engender social change was similar to Mahatma Gandhi's philosophy, which suggested that reconstruction and reform had to start at the grass-root level, i.e. from the villages. Agastya fulfilled the unmet needs of children and teachers in rural India, where teacher shortages were acute and children were often discouraged from going to school due to economic and social reasons. It created a new demand for creative, enjoyable learning, a concept that was alien to most children prior to Agastya.

For children who worked during the daytime mostly to financially support their families, Agastya conceived Operation Vasantha in April 2009. In this initiative, Agastya's instructors held night-classes for dropout students of different village communities to bring them back to regular schools. They also held monthly community meetings to educate adults on myriad topics like health, hygiene, and superstitions. The slogan "for the community, by the community" was earmarked for this program. By 2016, this unique program had touched 1.5 million lives. Agastya had tapped into the communities' latent demand and had developed a new market.

Agastya pursued a strategy of value innovation. It replaced traditional brick-and-mortar classrooms and expensive books with mobile science labs and low-cost science experiments. It didn't feel the need to include expensive computers, fancy sports equipment, or extravagant offices. Hence, it broke free from the limiting notion of value-cost trade-off. In 2015, Agastya had one of the lowest expenditures in any education program at the time to reach 1.5 million students and 250 thousand teachers annually, at INR 5 to 40 per exposure.

Agastya followed a hub-and-spoke model to disseminate education. The 172-acre Creativity Campus in Kuppam acted as the hub. By 2015, buses were transporting hundreds of students daily from nearby government schools to perform activities in the campus. Agastya's satellite centers, each equipped with over 100 science experiments,

were intermittently present in different districts, increasing Agastya's range. Agastya reduced their costs drastically by establishing these centers in state government buildings and schools. From these nodes, the mobile labs travelled further to reach remote areas. A typical lab spent nearly two hours per session and visited selected government schools thrice a year. Agastya drastically reduced its manpower needs by training the drivers to double as science instructors. In its recruits, it looked for a "BEE" degree. As Raghavan explained, "It's actually a Bachelor of Energy and Enthusiasm. We seeked people of that ilk."

Agastya continually made clever tweaks to reduce costs and increase impact. In 2011, Agastya introduced the Lab in a Box (LIB), which was a compact container with experiments on 70 concepts from Science and Mathematics. Ten such boxes were shared among ten schools for a few weeks and Agastya's instructors would visit the schools periodically to teach them. In 2013, the TechLa Bike project of Internet-enabled laptops and LIBs on motorcycles was an achievement that many commended, including Google.org that gave Agastya the Google Impact Award along with a $500,000 grant.

In March 2015, Agastya, along with Lenovo India, initiated the Lab in a Tab program where Lenovo A-1000 tablets preloaded with interactive science modules were distributed to nine government schools. This was a welcome step towards adoption of technology in its operations. It paved the way for other initiatives like the iMobile Lab in 2012 and the iCommunity Lab in 2014–wherein Agastya began including information technology and digital communication skills in its teaching objectives.

The metrics that Agastya used to measure, manage, and communicate success included input-oriented measures such as total exposures and number of peer-to-peer YILs (**Exhibit 5**) in addition to output-oriented measures such as awards won by students and the number of university enrolments. Raghavan created and sustained fruitful partnerships with foundations, educational institutes, and scientific communities for advice on strategy (**Exhibit 2**). Agastya often joined forces with companies to launch social initiatives; in 2010, it collaborated with Hewlett-Packard Catalyst Initiative to create innovation 'Sandboxes'–international forums that would explore the future of Science, Technology, Engineering, and Mathematics education.

The Secret Ingredient

Agastya placed much emphasis on making learning 'enjoyable.' In 2016, Adam Grant, professor at the Wharton School of the University of Pennsylvania, explained in his article the importance of feeling joy and responding to one's natural curiosity while learning in order to become creative.[16] Agastya's unique curriculum was in agreement with scientific research. Educational literature suggested that active, collaborative, cooperative, and problem-based learning methods had proven benefits like higher retention among students.[17] The Agastya movement also had parallels with the ideas of Sir Kenneth Robinson, an international adviser on education. In his popular TED talks, Robinson argued for a revamp of the present 'mechanical' system of education into one that developed children's love of learning and fostered their creativity–a message he elaborated in his book *Creative Schools: The Grassroots Revolution That's Transforming Education* (2015).

Agastya was changing the paradigm of education in India by imbuing happiness in the learning process. Raghavan's *Ah! to Haha!* concept typified Agastya's core principles. Raghavan explained it by spinning a tippie top,

> The tippie top highlights the three most important elements in learning. When you spin it, it tips over unexpectedly and you go Ah!; rather like how you feel when you see something counterintuitive, arresting, or beautiful, when your curiosity is stirred and your mind is awakened. And then you wonder why or how this happens. The process of discovery leads you to the Aha! moment or several Aha! moments when things click or when you have an insight. Finally, you must have fun doing what you are doing, which is the Haha! element. Fun and humor remove fear and anxiety, help retention, and increase performance.

The Road Ahead

Raghavan had to make a decision that would be pivotal to Agastya's success. To realize his vision of reaching 50 million students and 1 million teachers by 2020, Agastya would have to grow tenfold. Raghavan estimated that it would cost nearly INR

15,000 to 20,000 crore to replicate Agastya's Kuppam model across all districts. The good news: this was just 3 percent of the government's education budget. The bad news: acquiring funds was only half of the problem.

Agastya's Board was convinced that the best course was to adopt a centralized strategy and replicate the current model across all 640 districts of the country. This would reduce costs and accelerate decision-making. Nearly 200 million children still did not have access to quality education; speed was definitely the need of the hour. But challenges such as poor distribution infrastructure and red-tapism plagued Raghavan's mind. Not to mention, such a large system would be susceptible to theft and corruption.

Raghavan maintained that a one-size-fits-all approach would surely have its drawbacks because of India's diversity. He proposed an alternative decentralized model which would enable Agastya to penetrate remote rural areas, where quality education was needed the most. This way, Agastya would be able to improvise based on local needs. With many minds working on the same problem, such a system would accommodate creativity and flexibility. However, many board members were reluctant because of the uncertainty regarding human resource availability and receptiveness of State Governments. They believed that this structure would breed indecisiveness, further slowing down their operations. Also, costs to sustain this model would skyrocket to unviable levels.

In addition to these issues, the question of an overarching revenue model had been weighing on Raghavan for months. The Board was unanimous in its opinion that relying entirely on funding and donations was unsustainable even for its Karnataka operations. But, which business model would provide Agastya with a sustainable source of revenue? Raghavan considered many options including selling Agastya's services to urban schools for a monthly fee. But would that yield enough return to support its rural operations? And what impact would a new model have on Agastya's core principle of enjoying while learning?

Exhibit 1: List of Donors

Corporate

BOSCH
Cargill
Crompton Greaves
Google
HDFC Bank
Ingersoll Rand
L&T Finance
L&T
Philips
Synopsys

Foundations

Agilent Technologies Foundation
Axis Bank Foundation
DELL
Deshpande Foundation
Development Market Place (World Bank)
Edelgive Foundation
IGATE
Kapadwanj Kelwani Mandal

Source: The Agastya International Foundation Website

Exhibit 2: Agastya's Team

<u>Board of Trustees</u>

R. Raghavan, Chairman
V.K. Aatre, Former Scientific Adviser to the Minister of Defence, Government of India
M. Gupta, RARE Enterprises
R. Jhunjhunwala, Stock Market Investor & Philanthropist
M. Kumar, Managing Trustee
A. Oberoi, Co-founder, ACP Partners
P. Rao, Private Investor
A. Sethi, Managing Director, Polyfloro Limited
H.N. Srihari, Consultant and former General Manager, ICI Limited

<u>Management</u>

R. Raghavan, Chairman
M. Kumar, Managing Trustee
K. Thiagarajan, Chief of Operations
A. Basu, Chief Programs Executive
Sai Chandrashekar, Operations Head
Hariharan Ganesan, Director Partner Relations
R. Ramadorai, Karnataka Ecosystem Projects Head
Nitin Desai, Kuppam Campus Head
T.S. Suresh, Head Government Liaison
Dilip Gowda, South Karnataka, Head
Anil Joshi, North Karnataka Head
K. Ranganathan, Scale-up Team Head
P. Manjunath, Teacher Training
K. Balaram, Operations and Logistics
Ms K. Advani, Director Corporate Partnerships

<u>Advisory Council</u>

S. Jagannathan, USA
R. Krishnan, Distinguished Scientist (Former), Ministry of Defence
V. Krishnakumar, Singapore
Ms. N.S. Leela, Former Professor, MES College
K.G. Narayanan, Former Director, Aeronautical Development Establishment
Ms. Revathi Narayanan, Former Director, Mahila Samakhya Karnataka
Vasant Nayak, MurthyNayak Foundation
S. Parthan, Former Professor, IIT Kharagpur
G. Ramakrishnan, President, Meru Capital

M.A. Ramaswamy, Former Scientist, NAL and Professor, Indian Institute of Science
Y. Reddy, Former Environment Secretary, Government of Karnataka
Ms. Vidya Shah, CEO, EdelGive Foundation
M. Shivkumar, Former Chief Designer, Hindustan Machine Tools
D. Singh, Ex-Union Home Secretary, Government of India
M.G. Subramanian, Former VP, Hewlett Packard
S. Viswanathan, Founding Managing Partner, Indusage Global Advisors

Advisors – India

B.H. Jain, Chairman, Jain Irrigation Systems Limited
Dr. R G Nadadur, Retired IAS Officer and Visiting Professor, ISEC, Bangalore
M. Narasimhan, Former Executive Director IMF, and Governor Reserve Bank of India
P. Talwar, Director, Titanium Capital

Advisors - UK

Gopi Warrier, Chairman Ayurveda Holdings

Advisors - USA

Anupama Ramakrishnan
Dr. Arjun Oberoi, MD, Pfizer
Ravi Reddy, Chairman and CEO, Quest Industries LLC
Jasmine Srivastava
Pramod Srivastava, Director, Center for Immunotherapy and Cancer, University of Connecticut
Sandeep Tungare, CEO, Vistaar Group

Source: The Agastya International Foundation Website

Exhibit 3: Pictures of Kuppam

Agastya's mobile science lab

Young Instructor Leader

View from the Kuppam Campus

Source: The Agastya International Foundation Website

Exhibit 4: Mega Science Fairs

Students at the Mega Science Fair, Hubli

Science Fair in Hyderabad

Source: The Agastya International Foundation Website

Exhibit 5: Key Performance Indicators

Program	Exposures	Percentage
Operation Vasantha	15,34,096	27
Mobile Labs	14,07,172	25
LIB	9,20,266	16
Science Centre	6,00,716	11
Science Fairs	4,54,847	8
Teachers & Others	4,17,311	7
Campus Students	1,45,418	3
TechLa Bike	1,16,515	2
LOB	68,351	1

KPIs for FY13-14

Source: The Agastya International Foundation Website

Endnotes

[1] Geeta Kingdon, "Indian Schools Are Failing Their Students," *The New York Times*, December 15, 2015, http://www.nytimes.com/2015/12/16/opinion/indian-schools-are-failing-their-students.html?_r=0, accessed December 2015.

[2] Shekhar Aiyar & Ashoka Mody, "The Demographic Dividend: Evidence from the Indian States," International Monetary Fund, WP/11/38, February 01, 2011, https://www.imf.org/external/pubs/ft/wp/2011/wp1138.pdf, accessed December 2015.

[3] Geeta Kingdon, "Indian Schools Are Failing Their Students," *The New York Times*, December 15, 2015.

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[5] David A. Sousa, "How the Brain Learns (2001),"