Newspaper Clips
November 21, 2014

IIT Delhi is gearing up to celebrate Alumni Day 14

http://indiaeducationdiary.in/Shownews.asp?newsid=31992

Friday, November 21, 2014

New Delhi: IIT Delhi in collaboration with IIT Delhi Alumni Association is preparing for its annual Alumni Day scheduled on 28th December 2014. The iconic event shall be celebrated with the same theme, 'Envision the Future Together', as last year to strengthen the Alumni - Alma Mater bond and to explore ways to give back to the institute. Alumni Day is celebrated by all IITDAA chapters across the world on the same day in sync with the main event held at IIT Delhi.

This occasion brings an opportunity for all alums to assemble, interact and enjoy with each other and with the institute. Alumni Day will comprise fun-filled events throughout the day, networking and serious discussions on how to strengthen the Institute and make it one of the world's best altars of technology. More than 1000 alumni and faculty along with their family members are expected to participate in the event. A Sumptuous Luncheon and a riveting Entertainment Programme shall be organised for alumni and their families to go with the intense sessions.

IIT Delhi Alumni Association's President, Mr Ashok Kumar says, "I am glad to announce the 'Alumni Day 2014'. After last year's success we are sure that this mix of fun, fundas, food and friends will make it a day to cherish for alumni and their families. We are thrilled to invite the entire alumni community from across the globe and wish to make this event a grand success"

Business Line ND 22/11/2014 P-13

We need to arrest declining education standards: President

PRESS TRUST OF INDIA

Yupia (Arunachal Pradesh), November 21

President Pranab Mukherjee on Friday sought concerted efforts to arrest "declining standards" of education and said top institutions such as IITs and NITs must produce professionally competent personnel who can take an aspiring India to greater heights.

Addressing the first convocation of the National Institute of Technology here, he said there is a need to provide greater impetus to the ratings process of educational institutions and develop competition among them.

"It is a fact that our reputed engineering institutons lag in international rankings. There is a need to provide

President Pranab Mukherjee at the 1st Convocation of National Institute of Technology in Arunachal Pradesh.

greater impetus to the ratings process. At the same time, there is a need to arrest declining standards in a vast number of institutions," he said at the event which was also attended by Arunachal Governor Nirbhay Sharma Arunachal and Chief Minister Nabam Tuki. NIT Arunachal Pradesh was set up in 2010.

With 35 faculty members and 400 students enrolled in programmes ranging from graduation to PhD levels, it offers mainstream engineering disciplines as well as emerging subjects.

President, Shri Pranab Mukherjee called to remove the digital divide

Friday, November 21, 2014

http://indiaeducationdiary.in/Shownews.asp?newsid=32014

New Delhi: The President, Shri Pranab Mukherjee called today to remove the wedge between digital 'haves' and 'have-nots' through computer education to create a digitally-empowered knowledge society.

The President, Shri Pranab Mukherjee addressing the National Education Day 2014 function to commemorate the birth anniversary of Maulana Abul Kalam Azad, said education can lead to the trinity of progress, which are greater political participation, social emancipation and upward economic mobility.

On the occasion, the President also launched 'Know Your College Portal' of All India Council of Technical Education (AICTE) and the website of Unnat Bharat Abhiyan. The programme also witnessed the launch of two scholarship schemes – Saksham and Pragati. The Skills Credit Framework developed by AICTE was released by the Union Minister of Human Resource Development and its first copy was presented to the President. " Know Your College"" portal of AICTE aims to increase transparency and awareness about the opportunities of higher education. SAKSHAM and PRAGATI are two schemes og AICTE, which provide scholarships for boys and girls. The President said that there is need to propagate technology use in the dispensation of education. A fast digitalizing world holds scope to usher in sweeping changes in pedagogy and teaching-learning structures. Our efforts in harnessing new technology are at a nascent stage. We cannot afford to lose time. We have to leverage our advanced technological institutions and leadership position in IT. Alongside, we have to remove the wedge between digital 'haves' and 'have-nots'. Sarva Shiksha Abhiyan, which seeks to bridge the digital divide through computer education, should look for inter-linkages with the 'Digital India' programme that envisages provision of digital infrastructure to create a digitally-empowered knowledge society.

The President stated that a profound objective of education is transformation of the individual and the nation. India has the largest young population in the world. It poses both a challenge and an opportunity to our policymakers to harness the youth power productively by equipping them with relevant knowledge and skills. Modern education promotes a spirit of competitiveness and utilitarianism. But it should never lead to creation of a generation that turns a blind eye to the problems afflicting the society. The youth should be pro-active participants in nation-building. The onus is on them to find solutions to burning problems in sanitation, drinking water, energy, accessibility to remote areas, public health and so on. It is incumbent on our educational institutions to instill in our students a sense of ownership of the country's future, and responsibility in steering India to greater heights. It is equally important to inculcate in them values - patriotism, compassion, honesty, discipline and respect for women - that have cherished human society and our ancient civilization. Maulana Azad had effected sea-change in our education system six decades back. It is time again to rejuvenate it to usher in real change. On this National Education Day, let us all vow to make that happen.

Union HRD Minister Smriti Irani said on this occasion that All central universities from next academic year will implement credit transfer scheme to facilitate seamless movement of students. A credit framework is now in place which allows lateral and vertical mobility within vocational educational system and between current education systems.

The framework defines the rules for credit allotment and follows the National Skills Qualification Framework. For integrating vocational education with conventional education, skill knowledge providers will be registered by AICTE or other authorised bodies. Once the student completes the skill modules as required at a certification level and acquires the credits from the trainer, he can submit the credits to the institute which would transfer the credits to the technical board or university. Certification would then be awarded by the university or technical board accordingly.

President of India attends the First Convocation of NIT, Arunachal Pradesh

Delhi November 21, 2014 Last Updated at 00:20 IST

http://www.business-standard.com/article/government-press-release/president-of-india-attends-the-first-convocation-of-nit-arunachal-pradesh-114112100609_1.html

The President of India, Shri Pranab Mukherjee attended the First Convocation of the National Institute of Technology (NIT), Arunachal Pradesh at Yupia, Arunachal Pradesh today (November 21, 2014).

Speaking on the occasion, the President stated that turning NITs into world-class engineering institutes calls for developing multiple linkages. NITs have to actively engage with other institutes for research collaboration and sharing of best practices. They have to be more proactive in their interaction with the industry. Most NITs have an industry

interface cell in place. The cell has to explore possibilities like sponsoring of chair positions by industry; drafting experts from industry in project guidance and curriculum design; and setting up incubation centres, laboratories and research parks. The 'Make in India' initiative aimed at making our country a manufacturing hub depends to a large extent on the deepening of this academia-industry alliance.

The President said that NITs have to also devise mechanisms to connect with their alumni, many of whom have excelled in their chosen field. They could be inducted in governance mechanisms, or utilized for business and project mentoring of students and in curriculum design.

Kumud Srinivasan named NIT-T chairperson

http://www.thehindu.com/news/cities/Tiruchirapalli/kumud-srinivasan-named-nitt-chairperson/article6621324.ece

Kumud N. Srinivasan, president of Intel India, has been appointed Chairperson of the Board of Governors of National Institute of Technology-Tiruchi.

She is the first woman to hold the post since the inception of the institute in 1964, which was previously known as Regional Engineering College (REC). She will replace Rajaram Nityananda, Senior Professor, Tata Institute of Fundamental Research (TIFR), and hold the office for three years.

Her appointment has been viewed as a major step by the National Democratic Alliance (NDA) government as four more NITs have got women Chairpersons. An order to that effect has been issued by President Pranab Mukherjee, a few days ago.

Ms. Srinivasan has been with Intel for over 25 years and has held several business and information systems positions within Intel's manufacturing and information technology organisations. Prior to that, she was Vice-President and General Manager of IT for Silicon, Software and Services, where she led the delivery of IT solutions and service for Intel's hardware and software engineers.

She is a member of the Board of Advisors of the School of Information Studies in Syracuse University and the member of the Governing Body of International Institute of Information Technology Bangalore. She got her bachelor's degree in economics from Calcutta University in 1981 and master's degree in information and library studies from Syracuse University in 1984.

S. Sundarrajan, Director, NIT-T, who met Ms. Srinivasan in New Delhi recently, told *The Hindu* on Thursday said he held detailed discussion with her on various subjects and briefed her about the academic programmes. She would visit the institute on November 26 and 27

IIT-M becomes first full member of CMS

Chennai, November 21:

http://www.thehindubusinessline.com/industry-and-economy/education/iitm-becomes-first-full-member-of-cms/article6622194.ece

Indian Institute of Technology, Madras, has become the first IIT to be made a full member of the CMS (Compact Muon Solenoid) collaboration of CERN (Conseil Européen pour la Recherche Nucléaire), the European Organization for Nuclear Research, where physicists and engineers are probing the fundamental structure of the universe.

CERN is known for the discovery of the Higgs boson in 2012. The world-wide-web (www) was also invented at CERN. It is not only an international lab for fundamental research in experimental high energy physics but also provides a platform for innovation in technology through international collaboration. The two experiments that discovered Higgs boson are ATLAS (A Toroidal LHC Apparatus) and CMS (Compact Muon Solenoid).

IIT Madras' admission as a full-member of CMS was made possible by a presentation made to the CMS Collaboration Board by Prafulla Kumar Behera of the Department of Physics at IIT Madras. He emphasised IIT Madras' capabilities in experimental research, particularly in high-energy physics.

In addition to Behera, a second faculty member involved in this work is James Libby. Two graduate students have already joined the group to work on the CMS experiment. Although India has been part of the CMS experiment since its inception, IIT Madras is the only IIT invited to join the CMS experiment as a full member, according to the press release from IIT Madras.

(This article was published on November 21, 2014)

Times of India ND 22/11/2014 P-10

Smriti: Use of local tongue can boost GDP

Also Suggests Translation Of Scientific Terms

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New Delhi: While the row over removal of German language from Kendriya Vidyalaya curriculum continues, HRD minister Smriti Irani on Friday stressed on use of local languages in education and even suggested translation of scientific terminology in native languages.

Addressing a conference on education organized under the banner of World Hindu Congress, Irani said, "Whenever I talk about history, they (press) make headlines. Everything is not bad about history. Ancient India had great scientific minds. We need to find how to do its PR."

Stressing on the use of local languages in education, Irani, quoting a report by a multinational software company, said "the report inferred that when reading, writing and comprehension is done in local language, country's GDP rises".

She also suggested that people should not close their minds to use of scientific terminology in local languages. "Madhavan Nair (scientist) was telling me that scientific terminology can be translated into local languages," she said.

On the sidelines of the

For Alive steps, see P 4

> **The MoU through which German was allowed in Kendriya Vidyalayas was itself unconstitutional and I could not have extended it**
>
> **SMRITI IRANI**
> HRD minister

event, Irani reacted to the German language row saying that an unnecessary and deliberate controversy was being created over the issue. "The eighth schedule has 23 languages. German is not one of them. I have taken an oath of the Constitution. I cannot violate it. The MoU, through which German was allowed in Kendriya Vidyalayas was itself unconstitutional and I could not have extended it," Irani said. Asked how students would cope with a new language midway through their session, Irani said, "Counselling is being provided… They can choose from any Indian language. There is no compulsion to use Sanskrit."

Mangalyaan No. 2 in Time's 25 Best Inventions of 2014: Report

India's space miracle Mangalyaan has been put on No. 2 in Time magazine's 25 best inventions of 2014: Read the report

http://nvonews.com/mangalyaan-no-2-in-times-25-best-inventions-of-2014-report/

When Mangalyaan was unveiled in the year 2013 it grabbed international headlines. Astronauts and scientists working on space project were all praise of the ISRO for accomplishing the task in its first attempt. US space agency NASA too was impressed.

And now the Indian Space Research Organisation ISRO team that was behind this project has got accolades from Time Magazine that has not hesitated in describing it as a technological feat.

Though Mars orbiters have been successfully sent by three organizations in the past and multiple times by the US and Russia everone had several flops before succeeding.

According to the international magazine, it has been bracketed among the best inventions of 2014. This is no small achievement.

This is what Time Magazine noted: "Nobody gets Mars right on the first try. The US didn't, Russia didn't, the Europeans didn't. But on September 24, India did. That's when the Mangalyaan …went into orbit around the Red Planet, a technological feat no other Asian nation has yet achieved," Time said about Mangalyaan, calling

it "The Supersmart Spacecraft." Besides, Time magazine has listed Mangalyaan among the 25 Best Inventions of 2014. It claimed that these inventions "making the world better, smarter and—in some cases—a little more fun." The biggest attraction of this project (Mars spacecraft) was that it was achieved at the cost of just USD 74 million, termed extremely cheap by many.

IIT-M Joins Cern To Explore The Secrets Of The Universe

http://www.newindianexpress.com/cities/chennai/2014/11/22/IIT-M-Joins-Cern-To-Explore-The-Secrets-Of-The-Universe/article2535905.ece

CHENNAI: Led by an expert who was part of the ATLAS experiment that helped find the Higgs Boson by the Large Hadron Collider at CERN, the Indian Institute of Technology - Madras has become a full member of a collaboration with the Geneva-based organisation in search of the structure of the universe.

While reputed institutions including TIFR, BARC and a few others have been partnering with CERN, IIT-M is the first IIT to come on board of the prestigious LHC experiment.

According to Prafulla Kumar Behera, an associate professor with the department of physics, this initiative will help the institute strengthen its capabilities in fundamental research. "CERN is home to a lot of innovations, including the world wide web. This collaboration is like a bridge that would connect us to the highest level of scientific research while offering them our talent and expertise," Behera told The New Indian Express.

Besides him, another faculty, James Libby, and two PhD scholars have come on board on the CMS collaboration.
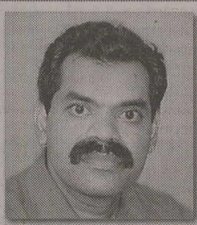
Behera was part of the ATLAS (A Toroidal LHC Apparatus), one of the many particle detector experiments at the LHC particle accelarator, for half a decade till 2011 before returning to India to take up the job at IIT-M.

The collaboration will be on CMS or Compact Muon Solenoid, a particle detector that is designed to see a wide range of particles and phenomena produced during high-energy collisions in the LHC. This information is believed to hold answers to the questions like what the universe is really made of, what forces act within in and what gives everything substance.

Behera has previously worked on silicon pixel detector, a sophisticated technology used primarily in fundamental scientific research, which is not available in India. "We would like to collaborate and develop Indian expertise so that by the time the plant is upgraded by 2020 as has been planned, there will be substantial contribution from our country," said Behera, who returned from CERN a week ago.

The silicon pixel detector has uses outside the limits of fundamental scientific research, including medical purposes like advanced imaging, he said, pointing out that Indian industries could manufacture the detector in the coming years.

While the team from Chennai will be placed at CERN during the summer, the idea is to collaborate from here by using grid computing to access data generated at the labs in Geneva. Grid computing facility has already been networked till TIFR, Mumbai, which will be expanded to south India, he added.

Needed solution architects

Engineers should build tools that improve life for present & future generations

BY INVITATION

TV GOPAL
PROFESSOR
COLLEGE OF
ENGINEERING
ANNA UNIVERSITY

TODAY global growth means graduate engineers can take part in providing solutions for the most challenging problems, where only the best idea wins. The role of an engineer spans across development, technical delivery and close customer engagement to provide solutions for the most critical challenges.

A "deployable graduate engineer" architects a solution not only for the customer but also for the customer's customers. The core challenge is to independently deconstruct and solve complex problems with very little or no direction.

The ability to explain complex technical concepts to non-technical users without losing sight of the deployment of the solution is of paramount importance. It is important to observe users in the context of their work and hence an ability to travel at least 25 per cent of the time is necessary. Also the ability to effectively use the "computer supported collaborative work" tools in virtual teams is vital.

The present day context emphasises the "disciplinary" studies that happen within the bounds of a currently recognised academic discipline with full appreciation to the artificial nature of the defined bounds. Multidisciplinary studies involve various pre-defined academic disciplines but they work well within the bounds of a specific discipline.

In other words, exchange of knowledge is feasible across disciplines but new theories or knowledge does not cross the specific discipline. Interdisciplinary studies facilitate the blending of various disciplines to create new theories and knowledge. Trans-disciplinary studies bring together academia and non-academia from different disciplines to co-create.

Study in engineering should advance not only technical knowledge and skills, but also foster a sense of life-long learning that is critical in the highly dynamic workplace and innova-tion-driven global fortunes.

A typical undergraduate programme in engineering should provide the raw material to foster future leaders who connect ideas in unexpected ways, integrate technical innovations into everyday life, and apply knowledge and discoveries to improve the society and further the understanding of the world.

The engineering profession should nurture graduates to imagine, create and deploy pertinent tools and systems, and build environments that enhance the quality of life for the present and future generations.

Computing seldom comes squarely into focus and yet it is almost ubiquitous in every enterprise. It spans all disciplines of work in a given enterprise. It is interesting to observe that a catalogue of computing system failures and analysis of these failures exposes the lack of application of social

HURDLES: The regular constraints of decreasing profitability, competition, dearth of resource and skills, and rising costs haunt the business processes. Development speed, platform flexibility and offshoring are some of the challenges in product development

> **Study in engineering should not only impart technical knowledge, but also foster a sense of life-long learning that is critical in an innovation-driven environment**

science in almost all disciplines of engineering today. However, it is also hard to argue that the success of these systems is dependent on the participatory nature of their design processes, or the application of social sciences.

The computing profession is barely 60 years old. It is the youngest among all the engineering professions. In the computing curricula, there is a need to provide a happy blend of "services science" and "product development".

Services science is an emerging discipline to develop the skills necessary in the global economies. This discipline brings together computer science, information science, operations research, systems engineering, industrial engineering, business strategy, management sciences, legal, social and cognitive sciences. Services science is an attempt to provide a foundation for the services sector to study and understand the co-creation, re-engineering and delivery of reusable assets.

Product development planning remains crucial to survival. Organisations strive for market expansion, increased product features and new product ideas. The regular constraints of decreasing profitability, increased competition, dearth of resource and skills, and rising costs still haunt the business processes. Development speed, platform flexibility, complexity management, outsourcing and offshoring are some of the most prominent challenges in the product development.

I feel the relatively young age of computing curricula should be taken advantage of to evolve an integrated approach to theory and grounding practice to meet the twin goals of services science and product development.

Let us "make in India" deployable graduate engineers who "make India from within".

Financial Chronicle ND 22/11/2014   P-13

Challenges in skill development

86 per cent of India's workforce is not formally trained for the job market

BY INVITATION

ATUL BHATNAGAR
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INDIA, one of the fastest growing economies of the world and currently the third largest in terms of purchasing power parity, is expected to be third largest economy after China and the US by 2030.
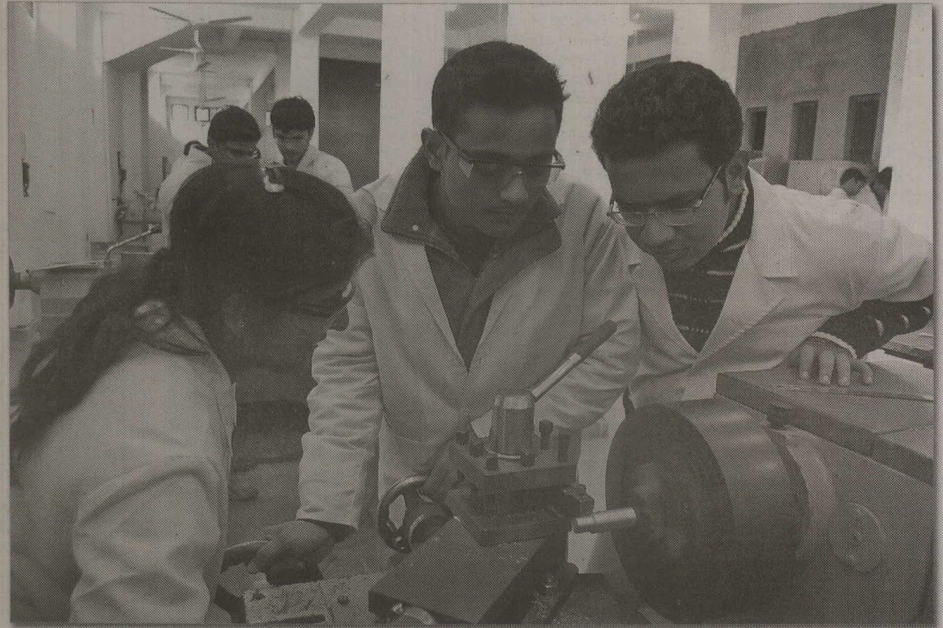
According to data, India's working population will surpass that of China by 2028. Clearly India has an advantage in terms of upcoming "young workforce" which is called the "demographic dividend". But we can't rely on the numbers alone, employability and skills are required to reap the dividend. Of the country's approximately 500 million workforce, 14 per cent is in the formal economy and 86 per cent in the unorganised sector. This 86 per cent is not formally trained or recognised in the job market as per industry expectations.

India has the potential to become the skill capital of the world. It has attracted the attention of countries that are ageing and looking for business opportunities in skill development or harnessing skilled human resource power.

The Indian government has also made its intentions clear. But with great ideas come bigger challenges. We don't grow when things are easy; we grow when we face challenges. India as a country of huge scale and size needs to convert challenges into opportunities when it comes to skill development.

Student mobilisation: One of the key issues that our training partners are facing is student mobilisation. While analysing the need to impart skill to youth, it was found that the capacity for trained labour can be created through partnerships, but the aspiration among youth to join a skill development programme was lacking. Most youth harboured doubts about the benefit of acquiring skills and the value of skill certificates. Consistent and reliable communication is needed to assure the youth about the value of skill certificates.

Learn a skill & earn, learn more & earn more: It should be the motto going forward. If graduation is to be pursued there are many ways to acquire a degree like through open universities, media learning and correspondence courses. It's imperative for the youth to understand and believe that the job probability is higher when one is trained and certified for a certain skill, under the national occupational standards (NOS) set by the industry.

Ability to pay & willingness to join: Another concern was with regard to the ability to pay for short-term skill courses. NSDC has tied up with certain banks to provide loans to students for pursuing skill-training programmes. The government also launched the STAR (standard training assessment and reward) scheme on August 16, 2013. It provided monetary rewards to students who got certified after successful assessment by an independent agency. Over 1.4 million candidates enrolled under the scheme.

Public and private sectors will have to weigh options where funding such trainings becomes easier for youth.

Lack of reliable information: To have a strong skilled resource pool, it's important to assess skill gaps across sectors and geographies to ensure that the courses are in tandem with industry's requirements. NSDC has conducted district-wise skill gap studies in 27 states. NSDC is also preparing an updated sector-wise skill gap studies in 22 sectors to identify the shortfalls in the changing economic environment. NSDC has also launched a campaign urging youth to get skilled in a sector of their choice or aptitude. A pan-India call centre has been set up where an aspirant can give a 'missed call' and get a call back from an agent to advise on skill opportunities in the region.

Capacity creation: Another opportunity is the capacity creation through training providers and quality curriculum. It's an onerous task to assess the right kind of training institutes who can deliver the modules and courses as per the standards set by respective industries. The 32 sector skill councils approved by NSDC have standardised over 850 job roles through NOS. This would lead to standardisation and ensure quality of vocational programmes.

Training the trainers: Among the many challenges, the key one is about finding quality technical trainers to impart job-winning training to youngsters.

Industry recognition: Currently, there is limited recognition for skilled manpower. Preference to the certified labour community will result in an organised labour market.

Hence we must actively engage with employers to recognise skills and provide incentive to skilled manpower. It would be great to see 43 million SMEs embrace skill development so that productivity rises and cost of quality falls. The nation would benefit immensely from such a move.

The role of sector skill councils will also be imperative as they play a crucial linking role between skilled workforce and industry.

Trans-national standard: NSDC is also engaging with other countries to implement the best practices in the skilling space. The SSCs in India have MoUs with relevant organisations in the UK, the US, Australia, Germany, etc.

Despite all these challenges, NSDC has skilled four million people. It took us nearly three years to skill the first million, one year to skill the second million, and now every three months we are imparting skill training to a million. Soon one million will be getting skilled every fortnight. That' the pace of skill development that NSDC is pursuing. We have been working with SSCs and have developed the necessary framework for standards, curriculum and quality assurance.

HUGE SCOPE: India has the potential to become the skill capital of the world. It has attracted the attention of countries that are ageing and looking for business opportunities in skill development or harnessing skilled human resource power

■ A consistent and reliable communication is needed to assure the youth about the value of skill certificates

■ Public and private sectors need to weigh options where funding for training becomes easier for youth

■ A key challenge is finding quality technical trainers to impart job-hiring training to youngsters

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Business Line ND 22/11/2014 (BL ink) P-5

Let's hear it from Arsh

This Panipat teen's invention allows people with speech impairments to communicate using their breath. The handy, affordable device can prove life-changing for 1.4 million Indians


Lego to the lab Arsh Shah Dilbagi's invention, Talk, won the Voter's Choice award at this year's Google Science Fair in Palo Alto, California
KAMAL NARANG

Standard XII for most students is a time of great stress — extra tuitions, unending revisions ahead of final examinations and deciding on the courses to apply for in college. Arsh Shah Dilbagi, however, is spared of this set of worries as he has another one to grapple with. What will he speak about at his upcoming Tedx talk, how can he build on the Voter's Choice accolade he won at the Google Science Fair, how to commercialise his innovations and, of course, somewhere at the back of his mind, how to get good grades in his exams?

The only Asian in the final round of the Google Science Fair this year, his innovation, Talk, is an augmentative and alternative communication (AAC) device that could change the lives of many who have speech impairments including those with neurodegenerative disease and congenital impairment such as cerebral palsy, autism and Parkinson's disease. The user's breath patterns are processed through Morse code, and the device — no heavier than a regular smart phone — takes only 0.8 seconds to dictate the letter 'A', 0.4 seconds for 'E' and so on. Most importantly, it will be affordable ($200 roughly) and life-changing for more than 1.4 million Indians afflicted by strokes each year.

A Lego story

"I didn't want him to sit in front of the TV all day, so I got him a Lego kit instead of a PlayStation," says Arsh's father, Amit Dilbagi, a 46-year-old executive engineer at the thermal power plant in Panipat. He and his wife, Ritu, have supported their son's endeavours since he was an adolescent, and Arsh always travels in his father's company. When we met, they had just driven over from Panipat to a south Delhi school, where Arsh was speaking at a tech conference.

The Lego Mindstorms kit from his father was Arsh's first step into the world of robotics. "It was probably the first Lego kit that was shipped to Panipat," says Arsh. "I always wanted a dog, so one of the first things I built was a robot-dog." That was in 2010 as a 12-year-old, the same year he won the national-level Indian Robot Olympiads. He won a regional competition the next year. He has since built a 50-centimetre-tall humanoid which, according to him, can do push-ups, stand on its head and climb stairs, as also a hexapod (spider-like robot) and an unmanned ground vehicle that fetched him honours in 2012 from the then President, Pratibha Patil.

Apart from a fully functional lab at his Panipat home that is equipped with soldering stations, glue guns and high-end computers, Arsh owns eight robotics kits at last count. "I make frequent trips to Nehru Place and Lajpat Rai market in Delhi to pick up spares. There are also a few websites from which I order what I need," he says, adding, "I have been lucky to have parents who support me and provide all the resources. I have a nice, big room with everything I need."

The Google experience

"There was a chauffeur-driven Cadillac waiting for us outside the airport," he gushes about his experience at Palo Alto, California, during the Google Science Fair's final round last month. "The setting was quite unconventional. We had a full crash-pad with everything — Xboxes, table-tennis setups, mini-golf, anything that suits your fancy. We were treated like total celebrities."

This was the fourth edition of the annual competition organised by Google, Lego, Virgin Galactic, National Geographic and the *Scientific American* magazine. There were many Indian-American children in the final round, but Arsh was the sole entrant from Asia.

"I was really happy that I got the voters' choice award. I was eyeing the grand prize, but this award was selected by the audience and I'm glad people believe that my device can change the world," he says.

Since the award, Arsh and his family have been receiving many calls from prospective buyers, but they first have to decide how to manufacture Talk commercially. "Even though it only started as his science project, it has become something more now. Literally, it gives voice to the voiceless," says Dilbagi.

Arsh is looking for some financial aid. "I love robotics, but it is an expensive subject and there are hardly any scholarships at the undergraduate level. I'm looking for funding to study further and enrol in a great institution," he says. In the meantime, there's still work in progress. "I'm making modifications to Talk. Next is a system where you plug in to a monitor using an HDMI portal and you can access the internet using your breath alone. A breath-controlled operating system of sorts."

> I always wanted a dog, so one of the first things I built was a robot-dog

SIBI ARASU

Deccan Herald ND 22/11/2014 P-6

Science museums as partners of education

KNOWLEDGE AIDS Eye-catchy and interactive, science museums are the next big thing in modern education. **RVM Chokkalingam** gives us a lowdown on the salient features of science museums
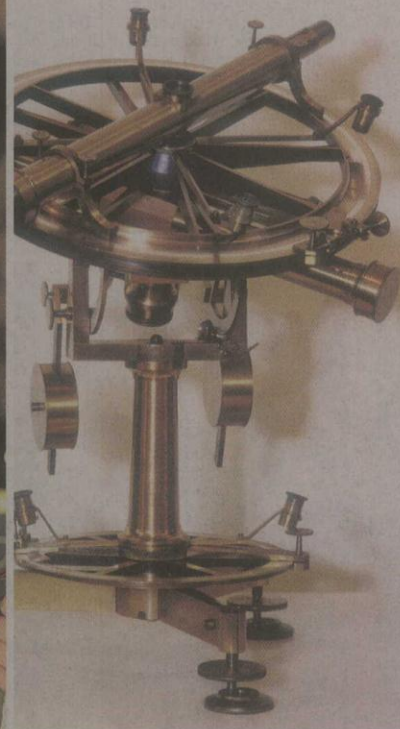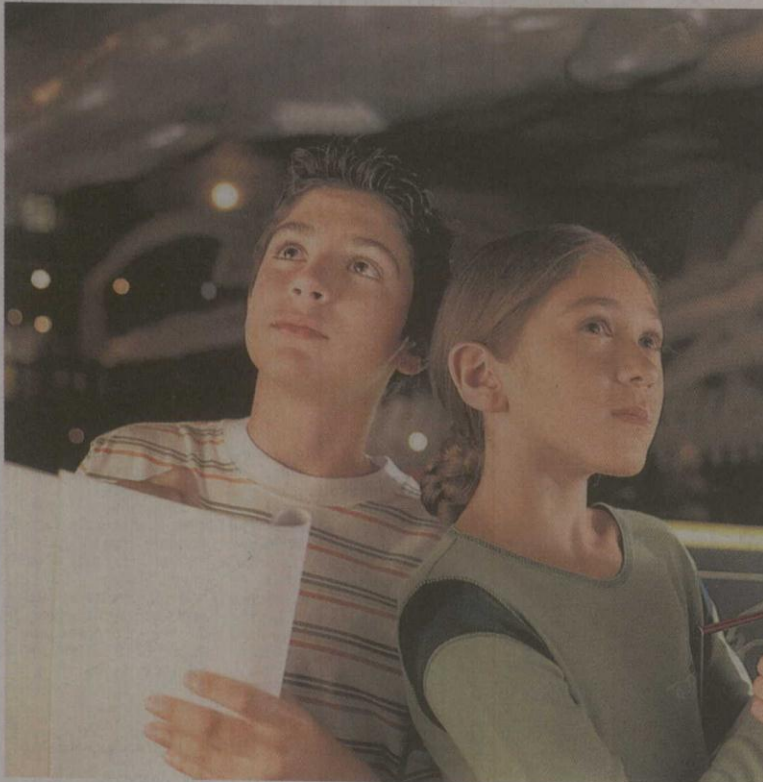
As the name suggests, a science museum is primarily devoted to the fascinating world of science. In existence since ages, they have fascinated scores of minds across the world. For example, London's Science Museum was born during the Industrial Revolution in 1851. Visvesvaraya Industrial and Technological Museum at Bangalore was established as a part of the centenary celebrations of the engineer-statesman, M Visvesvaraya in 1962.

The Exploratorium at San Francisco, a repository of interactive science exhibits, came into existence in 1969. As an informal learning centre for over 40 years, it has been offering intriguing exhibits and experiences that ignite curiosity, and encourages exploration. The open-ended science exhibits resemble working laboratories, where children can pursue their own scientific interests. It is often cited as the perfect prototype for participatory museums around the world.

Modern science museums around the world increasingly refer to themselves as discovery centres, making science accessible through their interactive science exhibits. Such exhibits delight the visitors with their simplicity in illustrating scientific phenomena. At their best, science exhibits encourage public to experiment and experience real world science, tickling the curiosity and exposing different phenomena to gain a deeper insight. They form an important bridge between formal science education and the community at large.

It is not a surprising fact that these science museum exhibits play a critical role in complementing what students learn in school. The whole point of any science exhibit is to provide the opportunity to investigate and validate the personal theories of young minds directly. They can serve as a model for enhancing formal science education by pursuing the scientific process on their own. Younger generation likes science exhibits where they could press a button, pull a lever, twist a knob, or watch something go pow, bang and whizz. Hands-on, interactive, and walk-through displays of physical sciences catch their attention faster than theoretical stuff. The sense of participating in the experiment opens the minds of many.

Opening minds

Science exhibits are more than just devices with an on-off switch. They are exciting accents with relevant sounds and visual aids. They don't just explain the physical, chemical, or biological attributes of the world around us, but are live demonstrations of various processes in our world. Moreover, the closer a science exhibit is to the personal experiences of the child, the better the chance that the exhibit will stimulate the child's own questions and doubts.

Effectively created and carefully set up science exhibits based on interaction intrigue every mind. Chosen with extreme care and thought, each exhibit carries succinct labels that are informative, easy to understand and entertaining; they are neither too brief, nor too tedious; they avoid technical jargon; sometimes, they are self-instructive with graphical aids. Normally, the description in the label explains the principles involved and the usefulness of the invention.

Science museums can also act as social centres for many children. Kids can explore a process together with their friends while having fun. Joint exploration can happen between students and teachers too, in which the role of teacher and student can alternate back and forth between participants.

Learning should be multisensory, and science exhibits appeal to all the senses equally. Science exhibits are visually exciting, produce sounds and present kinetic experiences. To present phenomena that may be hard to visualise for standard interactive science exhibits, the designer makes use of interactive video techniques, time-lapse films, computer generated graphics, and interactive computer simulations with visual modelling outputs.

There are emerging trends in exhibit techniques and program design that are more supportive of extended learning experiences. New techniques allow many complex ideas and concepts of science to be presented interactively. A relatively free-form environment allows and even demands that children create their own learning paths.

Rich, authentic experiences are fundamental to the educational enterprise. By creating science exhibits that vary both in subject matter and style, it has been possible to meet the comprehension levels of many different children. It would help if the science exhibits stimulate and intrigue a wider audience.

The key words of science museums are investigation and exploration. Science is demystified by making it more accessible, even to those who may feel it is beyond their understanding. The content hinges on human experience, real-time explanations, spectacular experiments and demonstrations. See-for-yourself science exhibits in science museums around the world address the desire of a variety of visitors in their pursuit of science.

Engaging science exhibits in the field of education sparks our imagination and indulges our curiosity and they should be used in a major fashion. With such interesting centres, learning wouldn't be boring anymore.

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Pondicherry V-C has a problem: CV has a suspect book, two that can't be traced

ARUN JANARDHANAN
CHENNAI, NOVEMBER 21

SHE is the Vice Chancellor of Pondicherry Central University, an ex-Vice Chancellor at SNDT Mumbai, former Acting Vice-Chancellor at University of Mumbai, and her CV has passed through the Central government and the office of the President of India, who is the Chancellor of all central universities, before her last appointment.

But documents accessed by *The Indian Express* reveal that Chandra Krishnamurthy plagiarised most of one book mentioned in that CV, which also lists two other books that may have never been published at all.

And, a search of the UGC database and an online repository for law schools show no trace of 24 of Krishnamurthy's 25 research papers and publications — on legal and constitutional studies — listed on her CV.

When contacted, Krishnamurthy first expressed surprise at the allegations, then said that she had acknowledged the portions in her work where she referred to other sources. However, this acknowledgment, in the last page of the book in question *Legal Education in India* which she authored, is a list of seven names of scholars without any explanation, and two Wikipedia links.

Krishnamurthy, who was appointed as Pondicherry Central University V-C in
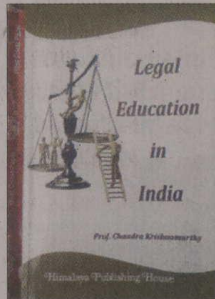
Five of its eight chapters has papers by others

early 2013, did not comment on the ethics of using others' work while claiming complete authorship. She added, before abruptly terminating the conversation, that she has published two books — *Legal Education in India* (2009 and 2011) and *Human Rights for Vulnerable Groups* — with Himalaya Publishing House even though the publishers have confirmed publication of only the first one.

She did not comment about the third book mentioned on her CV — *Constitutional Law-New Challenges*. The CV claimed the book was published by Snow White Publication but Angit Thakur, who represents the publishing house, said their database could not trace this book or any other publication by Krishnamurthy.

Now consider these:
■ Five out of eight chapters of *Legal Education in India*

were found to include papers written by eminent scholars including Padmashree N R Madhava Menon, an eminent legal educator and the founder of National Law School in Bangalore.

■ Menon's work titled "Training in Legal Education: Some Comparative Insights from Indian American Experience" has been virtually copied in full and published as a fourth chapter in Krishnamurthy's book with a minor change in the title: "Some Comparative Insights From Indian and American Experience." Other than a minor change - the word "means" in the original paper has been changed to "moans" in a portion — the article has not been changed.

When contacted, Menon said he will question this "theft" and take appropriate action. "I am just waiting to see a copy of her book," he said. "She never asked me for this reproduction and anyway, nobody can reproduce one's work in another's name."

Then again, the preface of "Legal Education in India" has been copied from a paper titled "Legal Education To Meet Challenges of Globalisation" authored by Pradip Kumar Das, a lecturer of Bengal Law College in Birbhum.

While Krishnamurthy has used the first paragraph of the paper for the preface, the rest of

Pondicherry V-C

Das' work is published as the second chapter of her book without even changing the title.

That's not all.
■ The book's first chapter, titled "Legal Education and Advocates Act, 1961", is almost a verbatim copy of the 184th report of Law Commission of India published in 2002, titled "The Legal Education & Professional Training and Proposals for Amendments to the Advocates Act, 1961 and the University Grants Commission Act, 1956."

■ A paper "Lawyers and Legal Education in India", authored by Dr Ram Babu Dubey a professor of law (at the time of publication) at the Government P G College, Narasinghpur, Madhya Pradesh, has been reproduced in the fifth chapter of Krishnamurthy's book under the title "Legal Education in India and Role of Lawyers (BAR)".

■ The first three pages of the sixth chapter has been copied from "History of Legal Education" authored by Sushma Gupta and published by Deep and Deep Publications Private Limited, New Delhi in 2006.

And, these are just the major instances of plagiarism that have been noted.

When contacted, K N

Pandey, one of the directors of Himalaya Publishing House, said that contrary to what Krishnamurthy claimed in her CV, they have never published the book titled "Human Rights for Vulnerable Groups." "Only one book has been published by her and we will definitely take legal action against the author if instances of plagiarism has been found. Unfortunately, the book is already in the syllabus of several law institutions including the department of law at the Bombay University for LLB courses. It is intellectual theft and she can't reproduce somebody's work when the copyright belongs to us, the publisher," Pandey said.

Interestingly, Krishnamurthy has marked all her personal files, including her CV, as "Protected Personal Information" by the Public Information Officer which would prevent them from being accessed by RTI queries.

Rajiv Yaduvanshi, an IAS officer who was the former registrar of Pondicherry Central University, had initiated several inquiries against Krishnamurthy before being repatriated by her last month. It was his efforts through the HRD Ministry that finally led to the declassification of her personal details. "I had reported to the

HRD Ministry about how she has abused her power by marking her personal details as "Protected Personal Information" to deny RTI queries," he said.

When contacted, M Anandakrishnan, chairman of the IIT-Kanpur board, and member of the panel that shortlisted Chandra in 2012, said the charges were serious and that she should be removed immediately from the post. "I will not tolerate the leader of an academic institution being involved in deliberate academic misdemeanour," he said.

Asked about the selection of Chandra by the panel, he said when they "select so many V-Cs within limitations, there are possibilities of some accidents too".

After going through the instances of plagiarism by Krishnamurthy, K L Chopra, a former director of IIT-Kharagpur who has headed several probe panels in central institutions and universities on plagiarism, said what the Vice-Chancellor had done was a punishable crime. "It is nothing less than the crime of stealing money. Plagiarism is the extreme form of dishonesty and a crime no teacher or scholar can do. She should be removed from the V-C's post immediately and the HRD Ministry should order a probe into her academic credentials and claims of publications," he said.

No Mark Zuckerbergs here
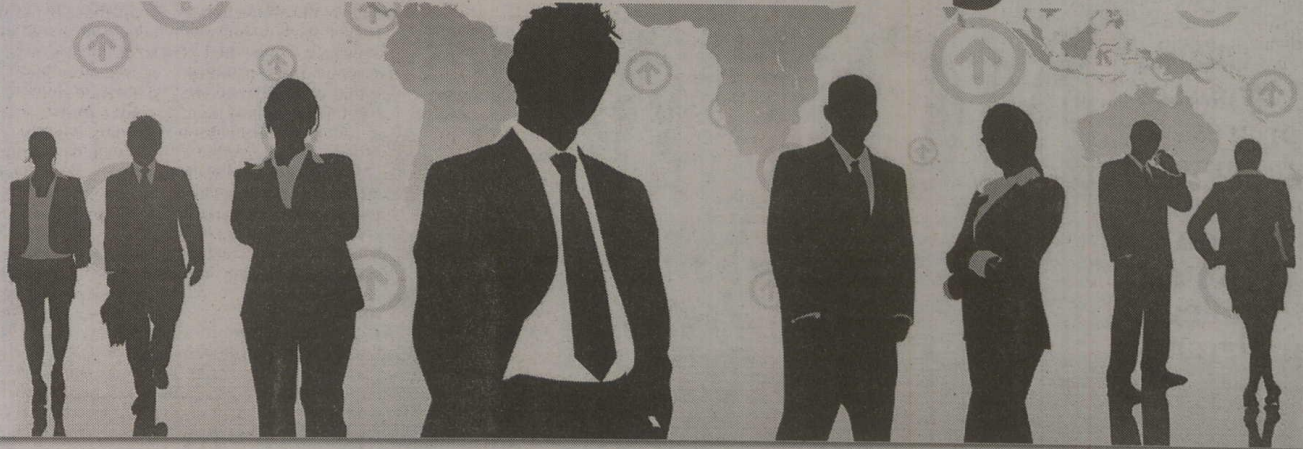
A recent CII survey concluded that only 37% of candidates assessed were employable

From P1

CONCURS S Ganesh, CEO, Dun & Bradstreet Technology and Data Services. "Our educational system is completely out of sync with the demands of modern industry in terms of skill building and personality development. There is a huge gap between our higher education system and needs of the industry. Industry and its needs keep changing. We do not get people with the right attitude. That is a big challenge."

According to the latest 'India Skills Report 2015' brought out by Confederation of Indian Industry (CII) in partnership with Wheebox, a leading online talent assessment company and others, India is sitting on an opportune moment in history with a demographic dividend of 65 per cent of her human resource pool aged under-35 and about 12 million such individuals expected to join the workforce every year. With demographic dividend, comes the responsibility of equipping the youth with employable training and in turn, employment.

With India metamorphosing into one of the fastest growing economies, job creation and skilling seem, not unnaturally, to be tools to ensure sustainable growth. The system, has however been plagued with theories of demand – supply

■ 65% of India's human resource pool aged under 35 and 12 million are expected to join the workforce every year

■ A recent job prediction survey says that hiring will be up by 20 per cent in most industries this year

■ IT/ITES industry at present employs around 3.1 million people, which is set to become 10 million by 2020

mismatch and the absence of credible data.

It took a McKinsey report released around 2006-07 to set the cat among the pigeons. For the first time, the report highlighted the issue of employability levels of Indian graduates in the absence of required skill sets. Based on this report and subsequent industry debates, it was safe to assume that only about 25–30 per cent of fresh Indian graduates were 'employable-ready'. This lead to calls for urgently addressing the needs to equip graduates with required skill sets, which in turn resulted in sprouting of 'finishing schools' across the country to help young aspirants fine tune their skill sets and gear up to become 'employable'.

The latest CII India Skills Report, which covered around three lakh students in 29 states and seven union territories and over 125 leading companies from ten divergent industries and conducted 'employability skill assessment test', has concluded that 37.22 per cent of the candidates assessed were employable. This represented a slight improvement from the 33 per cent revealed in last year's report by CII. Though the increase is not much, the report feels it is encouraging enough, since one has to consider that for something that requires more efforts at the ground zero level, the results will take some

more time to come.

On the other hand, the job prediction survey done to understand the demand side from across industries, has indicated that hiring this year will be up by 20 per cent in the case of most industries, a vast improvement over the dismal state of affairs last year. This, the report notes, is very good news.

At the same time, it would be instructive to remember what the 2013 CII Skills Report had pointed out, "If we look at the current stock of skill landscape in India, the situation is not very good". It found that of all students entering the job market across the country, hardly one-third meet the criteria of employment set by the employers. Many levels accentuate the severity of the situation when the economy is looking up. New jobs are getting generated, but are there enough 'skilled' people available for doing them? It is this gravity that has prompted various initiatives, forcing the government to adopt skill development as a national priority over the next ten years.

Notwithstanding the slight 3.7 per cent rise in employability, as indicated in the latest CII findings, these initiatives have a long way to go, if the gap between the supply and demand side is to be diminished. So, the speed and frequency of these efforts should be intensified,

the report proposed. According to Ramadorai, government institutions, academicians and corporations have a responsibility in this regard, to work collectively and address the employability issue with appropriate wages and bridge the mismatch between supply and demand of skilled labour.

The NSDC team has been studying the employment and employability scenario with the help of its sector skill councils (SSC), which integrate academics with the industry. Qualification packs (QPs) have been created and national occupations standards (NOS) have been drawn up to build a connect between vocational skills and formal qualifications.

The national skills qualification framework (NSQF) through the national skill development agency (NSDA) is already getting the first breaks. About 800 entry-level job roles across 31 sectors have been defined under the NOS. Till date, NSDC has been able to assess and certify over three million youth out of which more than a million have already been placed. Some of them have been skilled enough to start their own entrepreneurial ventures.

"It is unfortunate that our universities, because of the education system we happen to follow, run behind numbers (marks). That is not helping the industry. In our

group, we have adopted an approach — "recruit for attitude and train them for skills," sums up MM Murugappan, chairman, Tube Investments of India, part of the multi-billion dollar Murugappa Group. He elucidates, "for instance, while recruiting people, we prefer a graduate with lesser marks, but who is willing to learn the job, than an aspiring employee with very high scores but not willing to fold his sleeves and soil his hands to learn the trade." Relevant point.

In today's fast evolving world, every employee is expected to know and understand multi-functions. It is not uncommon for the industry to expect an engineer to analyse a balance sheet and a commerce graduate to have a fair knowledge of engineering. The education offered to students must be designed in such a way that it will mould them to be multi-functional, adds Murugappan.

Vinod K Dasari, managing director of commercial vehicle major, Ashok Leyland seems to agree. "We believe in not just providing employment but also creating employable youth. We believe not just in creating new engineers but also developing future leaders," he says. Dasari clarifies that "this is not some fancy statement, but the way we operate. Almost all our intake comes either from the GET (graduate engineer) or

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DET (diploma engineer) programmes."

"We have also created the BLESSING scheme in Pantnagar, where we take 10+2 graduates and provide a earn-while-you-learn approach. For this, we have built a state-of –the-art training facility, which extends beyond machines and vehicles, and goes into building confident young adults with outstanding emotional and mental attributes," he adds.

R P Sundarraj, professor, department of management studies, IIT Madras looks at it differently. "The problem is not necessarily with the education system *per se*, but has more to do with the hierarchical system that we practice at large in the society. As a result, correct thinking processes are not inculcated from childhood. For instance, where do we actually use what we learn, how, why and when? This is the way we teach students from the primary school level all the way up to higher education. Consequently, while the industry expects a Mark Zukerberg, the system that we follow is unable to throw someone or something like that".

Sundarraj delves further. "Students have to follow what has been taught to them. That has been our approach. They should be taught to think and ask questions. It may not be out-of-the-world. Even simple questions would do. They should know how to use what they learnt, when and where and in what context. The very idea of doing a project by students is to help them to think and act. But children these days simply look at Wikipedia and copy exactly what has been written there. While this helps to at least learn new things, it is not sufficient. A few original ideas/sentences that people are encouraged to express, is better than a lot copied from elsewhere." That's a point.

According to K Purushothaman, senior director – Tamil Nadu & Kerala, Nasscom, the IT/ITES industry at present employs around 3.1 million people, which is set to become 10 million by 2020. This refers to only the IT workforce directly employed by the industry.

"The curriculum, especially those concerning technology and related areas, is outdated. The IT industry is the only business, which provides employment opportunities for maximum number of graduates. It has become easy to do an engineering course in India, given the large number of such colleges. Hence, it has become important for colleges to impart curriculum, which is in sync with the expectations and dynamics of business," he points out.

Adds Purushothaman, "There are many companies, which have got their own curriculum and conduct knowledge sharing through campus initiatives. Nasscom too, as the industry body, through its Sector Skills Council conducts various initiatives for every vertical that we represent in the business of IT/ITES."

"Since the number of institutions have gone up, most of them have not thought it fit to be connected with the industry. The industry is focused on running its business and may not have the resources or time to run behind institutions. As a result, we join hands with those institutions that have the passion and commitment to connect with the industry," he said.

Adds S Ganesh of Dun & Bradstreet, "We do not teach people to question, to think, to constantly learn – be it manufacturing, services or agriculture, not just IT. Our education system's failure lies in the lack of thinking and questioning capability. This has not been taught since childhood. The demand from the modern industry is for independent thinking, adaptability and maturity at a young age."

M Sivakumar, CEO, ICT Academy, a skill development initiative of the government of India, Tamil Nadu government and the industry, brings out a larger, philosophical point worthy of mention. "The root cause is because we have neglected the teaching community. They are our unsung heroes and the pillars that impart knowledge to students. In developed nations, the teaching community is revered and institutions are very rich. Benefactors donate liberally to these institutions over there. However, it is not the case here, be it the way we pay teachers or donate to institutions."

He elaborates: "since independence, we have adopted a system that is neither fully controlled by the central government nor state governments. As a result, education, healthcare and skill development suffered. Because of this holy cow approach of 'not for profit', these institutions have continued to languish. It is not a bad idea to privatise or at least adopt the public private partnership (PPP) route more effectively, than has been perceived so far."

Sivakumar has a point when he says the industry too has to respond in a big way to support such an initiative and be more open to connect with academia and skill sets providers and share the latest trends and needs.

Points out Narasimhan Pattabhiraman, a senior IT professional, "Over the last three years, a lot of new engineering colleges have come up. But, how many of them have seriously thought about investing in and creating a sophisticated and well-planned placement facility? Placement is the end result of the performance of the college. It is time, managements of these institutions realise this."

He believes that colleges should get themselves involved in academic relationship management (ARM) activities. Only then will students through ARM get exposure to the industry even before they start giving interviews. "These ARMs are possible only when colleges have a vision to facilitate this. In fact, academic interface programmes are symbiotic programmes that help the college, the industry and the economy to grow. It's a three-way benefit, but only a handful of colleges are involved, " says Narasimhan, who visits engineering colleges across south India to help teachers and students to understand the industry and its needs better.

According to him, colleges need a proper curriculum in line with industry standards. "Bookish knowledge alone will not help, since today's industry has moved away from the vendor-vendee relationship towards a partnership mode of business. In such a scenario, one should possess skills like acumen, intelligence and adaptability. These happen only when proper training is part of the curriculum. A better understanding of the industry, communication and business methodology in addition to their core technical skills that they learn in the college is essential," he observes.

But, are such changes possible? If yes, then how long? "There is no magic wand. It cannot happen overnight and has to be an organic change. It will happen, but will take its time. Not surely in the next five years or so. The fundamental system has to change," concludes IIT Madras' Prof Sundarraj. He should know.

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