

TREND

MADHUVANTI S. KRISHNAN

We are now in the era of smart-phone classrooms, online exams, robotic house help and workplace companions; what is the common thread running through them all? A rapid advancement in technology, courtesy highly innovative minds; a time in which technology and creativity have become sine qua non in everyday life – Industrial revolution 4.0 or, IR 4.0 has arrived and how.

Creativity is the cornerstone of IR 4.0. It involves utilising the Internet of Things to prepare youngsters for challenges they may encounter at the workplace. Consequently, there arises a need for Education 4.0, one that emphasises the need to focus on preparing students to take on challenges, head-on.

And that is what Abhaya Kumar, Anuj Sharma and Dr. Indira J. Parekh, former Dean, IIM Ahmedabad, intend to do through the launch of Auronya College, India's first educational institution that seeks to answer questions about the little-explored world of Education 4.0.

Disruptive

A disruptive system, Education 4.0 not only focuses on 'what is taught' but it also assumes a nuanced approach to 'the way it is taught' – it is an education model which is aligned with future trends, in order to develop and enhance individualised education that will eventually go on to define the manner in which youngsters of the future will work and live.

Abhaya Kumar, Founding Executive Chairman, Auronya College, sheds some light on why one would describe the model as disruptive. "When one has to prepare

Education 4.0 is here

The fourth industrial revolution, brought on by the advent of the Internet age, demands that institutions embrace an education revolution too



Virtual reality: The future is now.

leaders for the 21st century, one cannot use 20th century methodologies; hence the term disruptive," he elucidates.

"As the barriers between man, machine and technology dissolve,

we need to define education for the next generation by keeping intact elements, values, beliefs and insights that makes us 'human'. This is the essence of conceptualising Education 4.0."

Abhaya Kumar feels that IR 4.0 presents some of the most transformative opportunities in human history. "Such an exponential rate of change in terms of technology and its uses in business and our

personal lives presents massive opportunities. It is redefining our social lives, health and behaviour. With great opportunities, come challenges, the first of which is to do with how we use transformat-

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ive technologies such as robotics, 3D printing, virtual-augmented technologies, and so on, at a reasonable price while ensuring mass social inclusion. This leads us to IR 4.0's second challenge – loss of jobs. It is predicted that at least 50% of jobs will be lost to technologies. How can the current generation be educated for this exponential change in knowledge, skills and abilities that will be required in next 10-15 years?"

Inspiration

It is to combat these challenges that the founders came together to set up Auronya College. Anuj Sharma, Dean, says that the inherent belief that one must work for the betterment of humanity was what spurred the trio to launch the college. "Human beings have always been creators, mentors and discoverers. For example, we did not stop sending letters because, we did not like the postal system. We merely invented a better way, in terms of communicating through e-mails. Whether it is geosciences, quantum computing, robotics, or artificial intelligence, education here will focus on future trends while keeping intact today's values and beliefs." Dr. Indira Parekh, Founding Chairperson, Auronya College, and Former Dean - IIM Ahmedabad, elaborates on how the education model is geared to meet future trends. "It will prepare students to understand transformations in the global context. They will experience perspectives of change, the uncertainty of the global and national environment, and find ways to manage and navigate themselves through the change. The

education of tomorrow, teaching pedagogies and the content of education have to be redesigned. What worked yesterday may be sufficient today, but may be inadequate or irrelevant in the future. A model such as the one adopted by Auronya will prepare students to visualise all that is required for the future," she explains.

Anuj Sharma lists some of the undergraduate and postgraduate programmes that will be offered by the college. "Our undergrad programmes will commence in 2018. This year, the college's first offering will be Antariksh, a one-year postgraduate diploma in new-age management and leadership. It will be delivered at a campus exclusively designed for it along with facilities such as studios of virtual reality, augmented reality, 3D printing, and so on. Antariksh's curriculum encompasses integrated topics such as business automation, robotics, digital social systems, fintech, and more," he says.

"Students will be prepared to build an indelible capacity to operate at strategic/senior levels in both globalised and technologically-advanced environments and gain hands-on experience to solve real-world problems nationally and globally," affirms Dr. Parekh.

"Graduates can work in strategic roles with senior management, in startup leadership roles, advisory and research capacities, business transformative roles, as consultants, valuation and merger specialists and corporate advisors," adds Anuj Sharma. Students will also have a host of opportunities where they can cater to industries in manufacturing, venture capital, FMCG, retail, astronautics, e-commerce, information technology, consumer services, data analytics, research and development, global think tanks and so on.

BLACKBOARD

It's story time... for mentors

Sustaining the attention of students in the classroom is a big challenge for teachers. Here is an effective tool that can help

SARTHAK SARASWAT

"A teacher who is not a good orator is as good as a dead teacher," says Professor Francis Peter, a faculty at Xavier School of Management, Chennai. Though the statement might sound dramatic, no one can accuse him of not emphasising enough on how essential it is for a teacher to be able to hold his/her students' attention in a classroom. And one of the best tools a teacher can apply to achieve this is storytelling. "This technique can be used for not just the arts, but for all the subjects," says Eric Miller, director, World Storytelling Institute, Chennai.

He was recently at Loyola College, Chennai, as a speaker at a national workshop on training of teachers. "Many senior professors are used to lecturing because their priority is to disseminate information within the stipulated time. Studies have shown that more interactivity is needed in classrooms," he says. He believes that storytelling and small group activities are effective mediums which can facilitate this and get students to actively participate in the classroom.

Different approaches

Different fields require different approaches. One of them is experiential, or activity-based learning, says Eric.

"The teacher/trainer introduces a topic. Students are invited to engage in an activity such as thinking (visualise, imagine), writing, drawing, talking in a small group, and so on. Then, the teacher/trainer facilitates a discussion with all the students and invites some of them to share with the entire group what they did and thought during their activity time," he explains. Students are encouraged to go through the material before the class, by reading, listening to audio recordings, watching video recordings, and so on. Class time is dedicated to interaction between the students, and between the teacher and the students. "The teacher's task is to help students integrate the data, put it in context, and find meaning in it," says Eric.

For subjects such as literature, history, social studies, anthropology and sociology, teachers can zero in on the human experience. "They can have a discussion on the lives of historic figures, such as their hopes, yearnings, fears, struggles, and decision-making processes. Professors can also encourage students to speak as the characters," he says, adding, "Activities such as these involve students at an emotional and imaginary level. Where emotions begin, intellect follows. They will be motivated to think about it analytically if they are emotionally involved."



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Professor P.V. Sridevi, who teaches history at Maris Stella College, Vijayawada, believes that the medium of storytelling interlinks different subjects and leads to a holistic understanding. "Today, all subjects need to be related and connected to the present. As a history lecturer, I can't just go to the past

and restrict myself to it," she says. She often encourages her students to interact with their grandparents and gain from their knowledge. One can gain unexpected insights through this exercise, she says. "I collect folk songs as they carry an oral record of our traditions and are never formally recorded. This helps students when they opt for post-graduation or higher studies. It adds value to narratives and helps them understand a topic better."

A question that would come to one's mind is, how can one use storytelling to teach science subjects? Eric has a simple answer to this. "Use personifica-

tion, give examples and review case studies – inventions, discoveries, advancements in a field, and so on."

Professor S. Vani Latha, who teaches chemistry at Maris Stella College, agrees. "Storytelling can be a useful tool, but one needs to plan things properly. To facilitate better understanding of chemical reactions and other concepts, we conducted a play which included some lab experiments. It proved to be quite helpful and enabled students to grasp concepts easily," she says, adding, "Since we have a hectic schedule, it is not always possible to conduct activities frequently. But they are really effective and should be tried more often in the classroom."

How can teachers hone their storytelling skills and employ them in the classroom effectively? "The World Storytelling Institute conducts various workshops. There is also a lot of reading material available on the Internet," says Eric. "Engaging a consultant who knows about storytelling can also help. The consultant can work with the faculty to implement it," he says.

Online resources

- Notes on storytelling workshops for teachers: www.storytellinginstitute.org/12.html
- An interactive documentary on story and storytelling: www.biologyofstory.com
- Links to recordings of storytelling-related video conferences: www.storytellinginstitute.org/av.html

VALUE ADD

On the cusp of art and science

Looking for a discipline that offers a balance between marketable skills and in-depth knowledge? Economics could be your calling

SPATIKA NARAYANAN

LinkedIn used its data to produce a list of the top skills of 2016 – those that will get you hired in 2017. The ranking is based on recruiter and employer activity over the past year. Number 9 on the list is 'Economics', nine ranks higher than its placement last year. We spoke to officiating director and visiting professor Sunder Ramaswamy, Madras School of Economics, to give us some insights into the field, picking up the skill, and career outlook. He is also a distinguished professor of international economics at Middlebury College, Vermont, U.S. Excerpts from an interview.

How do you define economics as a skill?

The simplest definition for economics is that it is the science of scarcity. We have so many resources – land, labour, capital, human ingenuity, time,

money – all of which are limited. But our wants and needs are infinite. So, how do you make the decisions of what goods and services to produce, how to produce them, at what prices, and where to produce them? These are the sort of fundamental questions that the study of economics tries to handle. People go about their daily lives without having any formal idea of economics. But they act in an economic way without realising it. So, the study of economics then becomes like "putting on glasses" when you have a vision problem – everything comes clear. It allows you to examine more clearly the world around you, understand why certain things happen the way they do, and what consequences come about because of a particular action. You begin to understand how economic agents (consumers, producers, governments) take decisions and make choices – from the mundane, to the more significant ones.



Dr. Sunder Ramaswamy

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Tracking trends: Analytically sound.

The way economics is taught in many advanced countries and universities abroad, is that it's very quantitative and analytical. The skills one should acquire are analytics, data mining, pattern recognition and modelling. But because ultimately the "actor" in any economic system is a person, understanding human motivations and actions is also important. So, economics is truly on the cusp of being an art and a science. What makes you complete as an economist is not losing sight of the fact that it is about improving the quality of life of the people. Good understanding of the political, social, cultural norms and motivations is also important.

What are some programmes/pathways for job-seekers or students to achieve this skill?

There are lots of institutions that will take students even if they have not done their undergraduate studies in economics. Students can join postgraduate courses, whether it's the Madras School of Economics in Chennai, Delhi School of Economics, Jawaharlal Nehru University in Delhi and Indira Gandhi Institute of Development Research in Mumbai, to name a few.

But, it is important that the student has a quantitative and analytical bent of mind – isn't scared of math, for example.

Economics is also very readable; for example, Steven

Levitt's *Freakonomics*, became popular and really motivates the reader to look for 'economics in everyday life'. Paul Krugman who writes for the *New York Times*, has written books that most people can comprehend. You can also sign up for the odd course online as well, through MOOCs.

I think there is always going to be demand for MOOCs, but economics is a discipline that requires some guidance, just as many other disciplines do. So, I have always been partial to what I call hybrid learning – where you can do lots of the learning online, but you also have someone like a teacher or mentor who can guide you to answer questions and discuss nuances of economics theorising and policy making.

Career outlook and possible career pathways

Economics has an enormous set of marketable skills that are transferable to a wide range of occupations. It is not that if you study economics, you must go into teaching or government service. You could go into the private sector, join think tanks,

NGOs, or undertake policy analysis. Specifically, you could work for a bank or financial institutions, companies that need analytics, data management and logistics; companies that need someone who understands market structures, competition, and cost structures of their products.

Your thoughts on why 'Economics' is in the top 10 skills?

People here are recognising that it's a very solid discipline that is analytically rigorous, has a rich intellectual tradition, is philosophically sound, and yet marketable. You could study a challenging discipline such as philosophy, or Sanskrit, but it may not be as marketable these days. Or you could study a purely marketable discipline, but it may not have the intellectual depth you're looking for. Economics, if taught right, provides this interesting balance between studying ideas in depth, and coming up with solutions to challenging global problems.

It is unfortunate that economics hasn't become even more popular here in India. In the U.S., it's been one of the top undergraduate majors for decades.

Want to specialise in bird watching?



Bird watching and bird photography are fast gaining popularity as hobbies. This interest in birds can be well accentuated with scientific knowledge. BNHS Conservation Education Centre (CEC), Mumbai, provides this opportunity with the 'Basic Course in Ornithology'.

This is a hybrid, part-time, one-year certificate course with online and field components. Chapters and assignments will be shared in the first week of every month. Field visits will be usually held on Sundays or public holidays. The course fee is ₹10,000.

Benefits

- Insights into India's bird-diversity, behaviour, habitats, conservation issues and sustainable living
- Opportunity to interact with scientists from BNHS and other organisations
- Opportunity to document and learn bird-diversity, which may even result in research papers, or an opportunity to work part-time as a resource person with BNHS CEC
- A certificate from BNHS and grades based on performance and participation

Eligibility

- Class X (any board)
 - Basic understanding about use of computer and the Internet
- For further details, call on 9594953425 or email baseornitho@gmail.com.

New courses at IIT Hyderabad

IIT Hyderabad is launching two new courses from the academic year 2017-18. They are B.Tech. (Minor in Design) and B.Tech. (Engineering Mathematics).

Engineering Mathematics will enable students to pursue higher studies in math. It will also help students to take up R&D work in national and international laboratories. The intake for the course is 10 students.

The Minor in Design Course will enhance the employability of students and encourage them to be creative thinkers and begin initiatives of their own. The intake will be between 15 and 20 students.

Blackboard

The Hindu EDGE invites teachers to send in their contributions on issues and challenges they face.

The article should be about 500 words. Please email it to edge@thehindu.co.in