

EDUCATION PLUS

GET THE EDGE

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A college student is murdered on her birthday and enters a time loop, and repeats the same day over and over again. That is the storyline of the 2017 black comedy *Happy Death Day*. Many higher education providers find themselves stuck in a similar time loop, endlessly chasing current industry needs but never arriving. Job-specific skills can quickly become obsolete. The acceleration of AI intensifies this cycle. Do we need adaptable individuals who can make sense and create a future, or narrowly skilled workers to boost placement stats? If it is the former, then the traditional focus on immediate job readiness is ill placed.

Skilling, upskilling, and reskilling are essential and urgent. But the relentless focus on job readiness can put education in a reactive cycle. We do not want placement pressure to suppress curiosity and growth, leaving young people anxious and unfulfilled. Instead, we need individuals driven by purpose and a hunger to understand the complexities ahead. The true preparedness comes from three meta-skills: meta-cognitive agility, epistemic flexibility, and transdisciplinary fluency. Big words? Not so when you see them in action as new fluencies needed for the mind.

Transferable skills

A researcher zooming in and out of a mind map to explore alternative inter-



Learning for the future

Why higher education institutions must reduce the focus on job readiness and encourage Anticipatory Learning

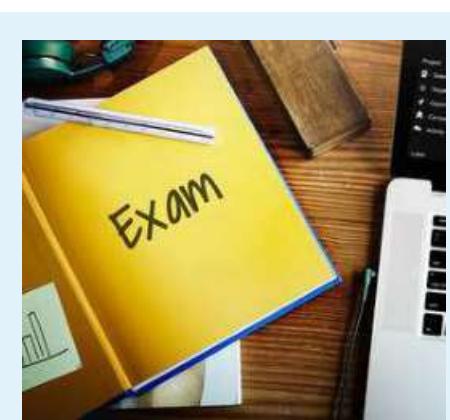
dustry readiness is important, but seeing education solely as job preparation turns learning into an echo chamber. Getting good grades is not a problem but thinking that schools exist just to give grades is definitely a problem. By avoiding such filter bubbles institutions can truly complement the employment ecosystem.

True learning happens when we are passionate about what we learn and free to explore our own interests. Higher education institutions can create this environment where industry readiness is a natural by-product that follows. Job readiness can be a powerful motivator in the short term, but it risks creating narrow, individualistic lives. This is not about rejecting becoming industry-ready but of looking at education only from that lens alone.

As technical skills quickly get dated, the very notion of job readiness is limiting. Educational institutions exist to encourage self-discovery and a sense of wonder. Finding connections, understanding problems, building solutions, and being socially responsible are all outcomes of that discovery and wonder. Anticipatory learning can strike the balance by combining personal growth with career skills to help create more meaningful work. We have more options for organising society and jobs than we realise. So, is it too idealistic to ask for this from all of us?

Beyond jobs
Many Western universities face pressure to reduce ties with companies engaged in fossil fuels, tobacco, and environmentally damaging practices. It is tricky to balance social responsibility with financial needs and tempting to be myopic. In-

The writer is Deputy Secretary, University Grants Commission.



No Detention?

With the Centre having done away with the "no-detention" policy for Classes 5 and 8,

The Hindu is hosting a webinar on the connection between no-detention and learning outcomes, how the various states have responded to the move and whether the new rules will help solve the problem of poor learning.

The speakers are

Ratna Viswanathan, CEO, Reach to Teach; **K.R. Maalathi**, Founder and CEO, Auro Education Services; and **Jayanth R.**, Principal Correspondent, The Hindu. The session will be moderated by Ravina Warkad from The Hindu's Education section.

When: January 11, 4.00 pm

To register, visit <https://t.ly/wQpwq> or scan the QR code.



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Consider long-term goals

Uncertain about your career options? Low on self-confidence? This column may help



OFF THE EDGE

Nandini Raman

I have an option of doing M.Sc. Bioinformatics or M.Sc. Biotechnology. I want to build an industry-relevant, financially rewarding career and pursue a PhD. What factors should I consider while making my decision? Sneha

Dear Sneha,
Your choice depends on factors such as your long-term career goals, core interests, industry trends, and prospects for Ph.D. Both fields offer good career opportunities but differ in their focus, skill sets, and industry demands.

M.Sc. Bioinformatics combines Biology, Computer Science, and Statistics and is data-driven and computational, focusing on tools and algorithms to solve biological problems. It is increasingly in demand in personalised medicine, genomics, drug design, and healthcare analytics and in industries such as pharmaceuticals, biotechnology companies, healthcare, and IT.

M.Sc. Biotechnology involves Biological Sciences, Engineering, and Technology to develop products and solutions in areas like pharmaceuticals, agriculture, environmental sciences, and genetic engineering. It has lab work, hands-on experiments, and involves working directly with biological materials. Biotechnology has more traditional applications in drug development, agricultural biotech (GM crops), biofuels, and bioprocessing in areas

like CRISPR gene editing, biopharmaceuticals, and biomanufacturing. This field has more hands-on industrial roles, including product development, R&D, quality control, and manufacturing, in pharmaceuticals, agritech, and environmental biotech.

Your interest in lab-based work versus computational biology should be the guiding factor in your decision. Additionally, research how each field aligns with your goal of pursuing a Ph.D. to build a career in either academic research or industrial R&D.

I'm doing a Master's in Mass Communication and Journalism but am confused about how to proceed. How can I get a good job? Shubham

Dear Shubham,
There are numerous career paths and the key is to align your skills, interests, and networking efforts with the right opportunities. Identify the area of interest across print/broadcast journalism, digital media, public relations, corporate communications, advertising and marketing, film and television production, social media management, documentary filmmaking, content writing or copywriting.

Build a strong portfolio that includes articles, broadcast pieces, video projects, blog posts, or social media campaigns. Sharpen your digital skills and gain some practical experience via internships and freelancing opportunities. Network and build connections by being a part of associations or media groups that can showcase job openings, professional development opportunities, and mentorship. Leverage LinkedIn to connect with

media professionals, follow relevant companies, and apply for jobs. Regularly post updates about your work, share articles, or discuss trends in journalism and mass communication.

Explore opportunities across journalism, PR, digital marketing, corporate communications, advertising, broadcasting, and academia. Consider short courses in digital marketing, public relations, or filmmaking to diversify your skillset and make yourself more versatile in the job market.

My daughter has completed her B.Des in Interaction Design and is working for a start-up. She wants to do an M.Des. from IIT-Mumbai. What other options does she have? Dhiraj

Dear Dhiraj,
Interaction Design is a growing field, and many reputed institutes offer specialised programmes in design, technology, and user experience. In India, the National Institute of Design (NID), Ahmedabad; Srishti Manipal Institute of Art, Design and Technology, Bengaluru; MIT Institute of Design, Pune; IDC School of Design (IIT Delhi); or CEPT University, Ahmedabad are great choices.

Top international design schools include the Royal College of Art (RCA), London; Carnegie Mellon University, Pittsburgh; Parsons School of Design, New York; California College of the Arts (CCA), San Francisco (all in the U.S.); and Delft University of Technology (TU Delft), Netherlands. Consider a programme that offers strong coursework and industry connections in Interaction Design, UX Design, or Human-Computer Interaction (HCI). Institutes with strong ties to the tech

industry, start-ups, or design consultancies provide better internships and job opportunities. Studying abroad is expensive but many institutes offer scholarships and financial aid. A strong design portfolio is crucial to demonstrate her creativity, problem-solving skills, and understanding of user-centric design.

Job prospects after M.Des could be a User Experience (UX) Designer, User Interface (UI) Designer, Product Designer, Interaction Designer, Design Strategist, Usability Analyst, or Service Designer. She can work in tech companies, start-ups, design consultancies, e-commerce, or even pursue entrepreneurship by starting her own design studio or consultancy.

My daughter is in Class 12 (Commerce). She wants to graduate in Commerce along with joining coaching for CA exams. Are there any colleges that provide integrated B.Com and CA coaching? Mahatungade

Dear Mahatungade,
Several colleges in India offer integrated programmes combining B.Com with CA coaching. Some of them are St. Joseph's College of Commerce, Bengaluru; Loyola College, Chennai; Christ University, Bengaluru; Jain University, Bengaluru; and Narsee Monjee College of Commerce and Economics, Mumbai. Bhawanipur Education Society College, Kolkata, and H.L. College of Commerce, Ahmedabad, Symbiosis College of Arts and Commerce, Pune, also offer an integrated course and are accredited to the Institute of Chartered Accountants of India (ICAI).

Disclaimer: This column is merely a guiding voice and provides advice and suggestions on education and careers.

The writer is a practising counsellor and a trainer. Send your questions to eduplus.thehindu@gmail.com with the subject line Off the Edge.



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Rest, recharge, repeat

Longevity Sherpa Prashant Desai on the issue of sleep deprivation among youngsters

Nahla Nainar
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William Shakespeare was not a sleep scientist, but he certainly summed up in *Macbeth* what modern-day researchers are still exploring. Sleep, the Bard declares through his anti-hero, is "the death of each day's life, sore labour's bath, balm of hurt minds, great nature's second course, chief nourisher in life's feast."

Yet, the 'murder' of sleep continues, especially among young people who are growing up in times where electronic devices and social expectations of academic success are sky-high.

"We are a sleep-deprived society. When prominent personalities say that they operate on five hours of sleep or that a 70-hour work week is an ideal to be aspirated for, they are motivating people towards wakefulness. Today we are the most burned-out generation and possibly the least productive," says Prashant Desai, a financial professional and entrepreneur known as Longevity Sherpa on social media.

Public health concern

Desai says that sleep deprivation among teenagers, especially girls, is a critical public health concern. "We are now living in a world where the definition of success is that you need to be perpetually

wired. You want to be connected not just socially but also to be informed. The go-to device is the mobile phone. What we do not realise is that all electronic devices emit light, which is one of the biggest enemies of sleep. There's a deep connection between sunlight/light and your circadian rhythm. So, even if you go to bed at the right time, you will be sleep deprived if you are using your device in bed," says Desai.

Sleep deprivation has become a personal passion for Desai since 2014, when he lost a close friend to heart disease.

"As someone who had lost his father at the age of seven, I wanted to zero in on why diseases come to us at different times," he says. He began educating himself on the subject, by attending courses in health and wellness in top institutions abroad. "I noticed that whether our discussions were on gut health, nutrition or exercise, all relied on something called sleep. If your sleep is not in place, it doesn't matter what you eat, how much you exercise, or how you take care of your stress and gut health."

He also enumerates some of the extreme effects of sleep deprivation: serious road accidents, rise

in depression and suicidal thoughts, and anger.

Good sleep habits

He urges parents to set the right example for their children. "The bed is a sacrosanct place for sleep, so do not take your laptop there. Discourage your children from studying while lying in bed. If you want to work late, do it in a space reserved for working or studying."

Incorporating awareness programmes into schools can empower students to prioritise sleep, he says. This includes teaching them how to resist social pressure to stay up late and recognise the signs of sleep deprivation. Among the other practical tips he offers are the dimming of lights towards sundown to help the body adjust to the change in atmosphere. Regulating the pre-bedtime routine is also key, he says, and advises the 3-2-1 formula: "Have dinner three hours before going to bed; do not drink too much water two hours before bed, as your sleep could get disturbed. One hour before you turn in, don't watch TV or social media. Wind down with reading and music," Desai advises. Eye masks, earplugs and air conditioning can lull the body into sleep mode, especially in crowded or noisy urban areas.

Regulating is key

Sleep efficiency is important in order to regulate one's health, says Desai. Being perpetually connected is taking a toll on our sleep.

"From a youth perspective, there is a massive Fear of Missing Out (FOMO) that is also driving a lot of sleep deprivation. The sale of caffeine-based energy drinks has gone up, as we need so much stimulus just to stay awake and focused and go through the day," he says. The glamorising of wakefulness has, ironically, created a huge market for sleep aids – mattresses, pillows, mood music and sleeping pills.

"If parents start talking to their children about the importance of sleep in productivity and good habits, and ultimately for success in studies, perhaps the image of sleep will improve. But it cannot happen overnight. Parents must understand that they should be kinder to themselves and others," he says.



THINK
Aruna Sankaranarayanan

The ubiquity of New Year resolutions suggest that we continually try to better ourselves. Though there is nothing wrong in wanting to refine ourselves, we tend to equate more with better. In his thoughtful book, *Subtract*, Leidy Klotz argues that the tendency to add or accumulate is stronger than our proclivity to reduce and our collective "subtraction neglect" is pernicious to individuals and institutions. The fact that we conceive of learning as "knowledge construction" shows that we favour adding over taking away.

In a series of studies, Klotz, Gabrielle Adams, and their colleagues de-

mognosted our preference for adding across domains. In one study, the researchers gave participants a Lego structure with some loose pieces scattered and asked them to change the original structure however they wished. Only 12% of participants removed Lego pieces, while the majority added. In another study, subjects were required to change "loops of musical notes". Again, subjects showed a greater proclivity to add. Similarly, when participants were asked to better a written piece, the adders outnumbered the ones who deleted by a ratio of "three to one". When asked to modify a recipe for a soup with five ingredients, only two of 90 participants removed ingredients.

Cognitive bias
The researchers termed this preference for adding "subtraction neglect" and considered ways of reducing this cognitive bias. In a

subsequent study, they cued half the participants that subtraction was a possibility. The cued group was more likely to subtract than the group that didn't receive this hint. In another set of studies, people were less likely to subtract when they had limited mental bandwidth. When we have competing de-

Sometimes, improvement is not just about adding more, but also subtracting wisely



sant chore from their to-do list. At the end of the weekend, those who spent the money "buying time" reported greater well-being.

Klotz also points out that Nature has "built-in checks on adding" at the "level of ecosystems." Climate change is the planet's response to our unchecked consumption of its resources. Unless we respond to this threat by prioritising less, we are writing in our own destruction.

Value of subtracting

Artists, according to Klotz, understand the value of subtracting. For Pablo Picasso, art was the "elimination of the unnecessary". Likewise, Michelangelo "saw the angel in the marble" and chipped away until he could "set him free."

Likewise, designers also see the value of subtracting. Most historical architectural structures are made of solid bricks. However, an innovative archi-

tect Anna Keichline filed a patent in 1927 for a K-brick, which retained the "load-bearing outside parts" as solid but hollowed out or subtracted the insides. Not only were these bricks easier to make and transport, they also made buildings more energy-efficient and fire-resistant while reducing noise.

Klotz points out that subtracting is not synonymous with "doing less". Sometimes, taking away involves more work, but the end state is preferable. Though an acquisitive culture is rife around the globe, indigenous cultures and most religious traditions have cautioned against greed. Klotz quotes Lao Tzu, the ancient Chinese philosopher, who sagely says, "To attain knowledge, add things every day. To attain wisdom, subtract things every day."

The writer is the author of Zero Limits: Things Every 20-Something Should Know & blogs at www.arunasankaranarayanan.com



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Dr. Arvind Balakrishna Kasaragod

Today, healthcare institutions prioritise quality of care and patient safety and the quality department plays a crucial role in ensuring that they meet high standards, reduce risks, and improve patient outcomes. This department is integral to identify gaps in care, implement corrective actions, and ensure adherence to both national and international standards. Quality department professionals are pivotal during accreditation processes and, with the growing adoption of digital health technologies, ensure that innovations such as electronic health records (EHR) and telemedicine platforms meet regulatory standards while maintaining safety and quality care.

Qualifications and skills
A career in healthcare quality requires a blend of healthcare knowledge, analytical skills, and a commitment to continuous improvement. Educational qualifications required are a Bachelor's degree in Science and an MBA, MHA or PGDM in Healthcare Sciences. Other skills required include strong communication, attention to detail, and critical thinking and the ability to collaborate with other teams to improve patient outcomes. Certifications such as Certified Professional in Healthcare Quality (CPHQ), Six Sigma, or Lean methodology, coupled with an understanding of data-driven quality improvement ef-

forts, provide a competitive advantage.

What exactly does the quality department in a healthcare institution do? Here are some of the aspects that it looks after:

Quality Improvement (QI) Initiatives: Improving care delivery and patient outcomes, often using methodologies such as Six Sigma or Plan-Do-Study-Act (PDSA) to measure and drive improvements.

Patient Safety: Identifying potential safety risks, addressing adverse events, and ensuring compliance with safety protocols.

Accreditation and Compliance: Ensuring that the organisation meets required standards such as the Joint Commission International (JCI) or National Accreditation Board for Hospitals and

Healthcare Providers (NABH) and preparing for audits and ensuring regulatory compliance.

Data Collection and Analysis: Collection and analysis of data on infection rates, patient outcomes, and patient satisfaction and identifying areas for improvement and devise targeted strategies.

Risk Management: Identifying risks, investigating incidents, and implementing corrective actions to prevent harm to patients and staff while mitigating institutional risk.

Education and Training: Educating and training staff and patients on infection control, medication safety, and patient care protocols to ensure adherence to safety standards and best practices.

Patient Satisfaction: Gathering patient feedback

to identify areas for improvement in service delivery and ensure compassionate, timely, and high-quality care.

Infection Control: Prevent healthcare-associated infections by monitoring infection rates and ensuring adherence to best practices for hygiene and sterilisation.

Opportunities and challenges

A career in healthcare quality offers both professional fulfillment and personal satisfaction. Not only do these professionals directly improve patient outcomes by identifying areas for improvement and implementing best practices but also work closely with senior leadership, quality professionals to influence key policies and initiatives that affect the entire organisation and

shape the future of healthcare delivery. Healthcare quality management offers a variety of specialisations allowing aspirants to align career goals with their interests. As new technologies and best practices keep emerging, the dynamic field offers constant opportunities for learning and growth. Quality professionals collaborate with various teams, including clinicians, administrators, and IT specialists, providing an interdisciplinary and diverse work environment.

While a career in healthcare quality is rewarding, it also comes with challenges. One has to navigate complex regulatory environments, manage competing priorities, and ensure quality initiatives are effectively implemented. Achieving sustainable improvements requires persistence and attention to detail. However, these also provide opportunities for innovation by leveraging new technologies and data-driven strategies.

The demand for quality professionals is growing, as quality improvement and patient safety become more central to healthcare organisations. Whether one is drawn to patient safety, risk management, or regulatory compliance, healthcare quality professionals will continue to make a lasting difference in the lives of patients and contribute to the overall improvement of the healthcare system.

The writer is Director of Medical Services, Cloudnine Group of Hospitals

Into a new world

The growing emphasis on AI across various sectors opens up a unique opportunity for students to develop innovative models in areas beyond content creation

Arun Prakash

There has seldom been as crucial a juncture in human history as right now. The phenomenon that is Artificial Intelligence (AI) has completely transformed human lives in the last few years. The growing emphasis on AI has been further supplemented by its role in promoting innovation in the global business space.

As this paradigm shift takes place, AI is being increasingly used in Large Language Models (LLMs), through its innovative generative capacity, for content creation. However, the true potential of AI extends to more complex procedures, as this new-age technology's foundational objective has always been to streamline how humans operate, and offer solutions that not only reduce time-frames but also enhance quality of life.

Catalyst of growth

In 2023, worldwide spending on AI-centric systems was estimated at \$154 billion, with the banking and retail industries making the largest investments. A major part of this push was focused on Generative AI (GenAI), highlighting the growing emphasis on GenAI-related operations such as content creation. However, the overall scope of AI extends beyond this to complex work in sectors like healthcare, manufacturing, Science, research, environment, transportation and more.

For example, AI has transformed customer engagement, an aspect that is being extensively used by retail companies in Customer Relationship Management (CRM) to help customers choose, customise products, services, payment methods and so on. In the electronics industry, manufacturers are integrating AI as part of appliances, computer accessories, and white goods to enhance the output, streamline processes, reduce expenses and amplify affordability.

Expansive scope

The growing emphasis on AI in all paths of life opens up a unique opportunity for students to develop innovative models that can help in various sectors. As a di-

rect result of the increased infusion of capital in the space, corporations are hiring more talent to develop state-of-the-art AI models, highlighting the increased demand for skilled professionals. For example, the scope of AI in the healthcare domain includes diagnosis, medical image analysis, virtual health assistants, predictive analysis, remote monitoring, drug adherence, research, treatment planning and patient care. The integration of AI-powered medical assistants can not only help future-proof medical science but also increase the chance of new drug discovery, personalised medicine, genomics and new advancements.

In the manufacturing and industrial sector, AI can lead to streamlining processes, predictive maintenance, quality control, mitigating inefficiencies, inventory management, supply chain optimisation, reducing production costs and more.

In education, AI is already leading to personalised learning, natural language processing (NLP) for language learning, smart content recommendations, virtual classrooms, automated tutoring, and innovative features like speech-to-text and vice versa for distinct learning requirements.

Finance, research and development, transportation, smart cities, defence and numerous other sectors are increasingly witnessing AI integration. This widespread effort is leading to more relevance for algorithmic methodologies, including assessments, new developments and other aspects.

Outlook

As a result, many companies are investing significant capital, time and expertise to create new-age solutions, with these efforts further supplemented by governmental participation. This comprehensive push is also being powered by a population that prefers more streamlined and efficient ways to completing tasks. As we step into a new age of innovation, today's students must look at new ways to design and sustain a new world.

The writer is Founder and CEO, GUVI Geek Networks.

All for quality

Accreditation of institutions is vital as it ensures competitive programmes, credibility, and opportunities for collaboration

S.R. Sridhar

Accreditation is the cornerstone of institutional quality assurance in higher education. It is a process where external bodies evaluate an institution or programme to ensure it meets predefined quality standards that usually encompass areas such as curriculum design, faculty qualifications, student support services, research, and infrastructure.

Accreditation ensures competitive programmes, credibility, and opportunities for collaboration, grants, and funding. It attracts top faculty, students, and partnerships. For students, accreditation ensures recognition of the degree, enhances job prospects, and facilitates credit transfer domestically or internationally.

Rankings evaluate institutional performance through factors such as academic reputation, employer perception, research output, spending, infrastructure and student satis-

faction. High rankings improve an institution's reputation, attract international talent, and secure funding. For students help highlight institutions with superior resources, faculty, and networking opportunities that impact career success.

Meeting standards

Accreditation is vital to ensure institutions meet academic and administrative standards. In India, of the over 6,000 Engineering colleges, only around 1,500 are accredited by the National Board of Accreditation (NBA).

This means that a vast number of Engineering graduates are studying in institutions that do not meet the rigorous standards required for accreditation, which can affect their employability and the overall quality of education.

In India, the National Assessment and Accreditation Council (NAAC) is the primary body. According to the latest statistics, over 392 universities and about 9,000 colleges are



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accredited by it. This shows a considerable number of institutions are still to receive accreditation, signalling the scope to improve quality standards across the country.

Obtaining accreditation is not without challenges. A primary hurdle is the need to engage key stakeholders, especially faculty, staff, research scholars and students. Collecting data from researchers and faculty entrenched in their domains and focused on research projects is daunting.

Accreditation requires a significant amount of documentation, data collection, and process standardisation, which can be time-consuming and demanding. Institutions must gather information across a wide range of attributes, including academic outcomes, faculty qualifications, student progression, infrastructure,

and governance and this must be meticulously organised and presented for review.

Additionally, institutional leadership must foster a culture of quality and transparency to ensure that all departments are aligned with the goals of accreditation.

Challenges

Indian institutions, while improving, still face significant challenges in achieving top rankings on the global stage. While institutions such as the IITs and the Indian Institute of Science (IISc) have made progress in global rankings such as the QS World University Rankings and the Times Higher Education Rankings, India is still under-represented in the top 200 institutions across the world.

One reason is the relatively low research output com-

pared to institutions in countries like the U.S., the U.K., and China. Additionally, many Indian universities lack sufficient infrastructure and funding to compete with their global counterparts. International collaboration and student mobility (Indian institutions have limited inbound and outbound student exchange programmes) also impact global standing.

For global rankings, Indian institutions must balance between the NBA and the NAAC. The former accredits technical programmes (Engineering, Management), aligning with international standards (Washington Accord). NAAC evaluates entire institutions, providing domestic recognition.

To enhance global rankings, institutions should pursue international accreditations (AACSB, ABET, EQUIS) and target QS, Times Higher Education, and Shanghai Ranking frameworks, focusing on research output, academic reputation, and international partnerships. Securing good accreditation must be the initial priority; then, institutions can aspire to improve rankings first nationally and then globally.

The writer is Registrar, International Institute of Information Technology-Bangalore.