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Five ways how upskilling can benefit students

Students now can upskill themselves by logging on to online courses on the subjects of their choice

Education in this new-age era is going through a lot of changes which is a sign for the students to change their methods of learning and gaining knowledge. With technology involved, students can access information online readily, which was previously available in books or with teachers. Students are now able to connect with tutors online and learn subjects they are interested in.

However, as a traditional approach, students and parents are still concerned about grades as an indicator of success in academic qualifications. But with changing scenarios in the education system, they cannot solely rely on grades themselves. Therefore, to thrive in the competitive environment, there is a need to cultivate skills that could lift them and create new standards of excellence.

Upskilling: A boon for students

For students to enter a job market or gain higher education, a new set of skills is required. But they do have some existing skills that they could improvise, including digital literacy, communication, critical

thinking, grasping ability, language skills, etc. But at certain times, there are circumstances beyond the control of the students that could make them fall behind in the competition and create a skill gap. In order to overcome the issue, they can follow the practice of upskilling which includes learning new skills and upgrading existing ones to match a domain's expectations. Listed below are some ways that upskilling can be beneficial for students.

Getting Job Ready

Traditional teaching methods do not cover the relevant skills required for an individual to enter a job profile. While preparing for an interview, the students must be familiar with the industry standards and requirements which are important for them to gain the position. When they follow the practice of upskilling and gain significant skills on the prior hand, the industry does not have to spend a lot of time training them, which also saves the cost of the company. Therefore the process is beneficial for both organizations and students. If a student has expertise in a foreign language, they can get relevance for the posi-

tion in an MNC where there is a requirement.

Creating a Professional Persona

Even in the academic phase, the students need to stay presentable for classroom activities, on-campus interviews, and presentations with reporting. Upskilling involves learning professional skills such as communication, problem-solving, team working, organizational know-how, and strategically thinking, that could make them professionally ready to face a crowd as well as help in networking with other students. Having a professional character can lead students to stand out from the crowd in terms of qualifications and competence.

Boosting Motivation

The academic era is full of ups and downs with failures as a distinguished part. It is usual for students to get upset when they do not get the grades they expected. But to know, schools are also focusing on skill-based learning instead of following learning-based education. When students learn a new skill and attain certifications, it gives them a

sense of accomplishment and helps boost their confidence. Motivation is a crucial factor in academic performance as it can give positive feelings about their learning while inheriting joyful experiences and a sense of fairness.

Enhancing Learning Capabilities

Learning a new skill needs curiosity, adaptability, grasping power and attentiveness. While learning something, a student can get analytical while assessing their strengths and weaknesses. This self-assessment enhances their individuality and facilitates them to grow as a person. In addition, it also gives them a fair idea of experiential learning and learning by doing which can be beneficial in every aspect of life, whether educational, personal or professional.

Striking Ability to Lead

When students enter any school or college, they had to learn and work with other students on projects, dissertations and practicals. With appropriate research skills, they can have the upper hand

in leading the group sessions. They can be more punctual, focused and ideal in following the tutors while asking questions to clear their own as well as other students' doubts. With the upskilling process,

Final Thoughts

Upskilling can be beneficial for students to lead a successful life while being industry ready and academically apt. To upskill themselves, students can do certification courses, enroll in internships, volunteer in organizational events, join networking programs or learn a new language online. There can be myriad methods to facilitate personal improvement with online platforms that are accelerating this process by bridging the gap between deserving students and skilful teachers. These constant efforts can help students to create better goals and make suitable decisions for their life. Upskilling is the need of the hour, and students following in the right footsteps can achieve personal as well as academic satisfaction and is beneficial for a longer period of time.

Economic challenges

Despite Board results throwing up a record number of students scoring more than 90 per cent marks, the quality of education imparted by our schools, except very few, is pitiable. That Board results do not reflect the true picture can be gauged from the fact that the current year's results, when no classes were held, are better than the Board results of pre-pandemic times

Total disintegration of the governmental edifice in Sri Lanka and its near disintegration in Pakistan, prompted by economic reasons, has emboldened doom-sayers in making dire predictions for India, forgetting that the Indian economy is far more robust and resilient than the economies of neighbouring countries and there is no danger of our economy imploding in the foreseeable future. However, it is equally true that runaway inflation, rising unemployment, mounting current account deficit etc. have exacerbated the challenges facing our economy, and some deft management is required to keep the Indian economy on track.

Poverty has risen to unacceptable levels; eighty-one crore persons, that is around 60 per cent of our population are surviving on subsidised rations provided by the Government and demand for employment under the Mahatma Gandhi Rural Employment Guarantee Scheme (MGNREGS) is surging. Then, the economy has failed to keep pace with our famed demographic dividend, resulting in large scale unemployment. According to Centre for Monitoring the Indian Economy (CMIE) data India's employment rate was only 35.8 per cent in June 2022, meaning that only 35.8 per cent of the working age population in India were employed.

Unemployment was at a high of 7.8 per cent, with total employment falling by 13 million to 390 million in June 2022. With this waste of human resources, it is not surprising that we as a country are far from realising our full potential. The CMIE report said: "The government shrunk the demand for armed personnel and opportunities in private equity funded new-world jobs also started to shrink," concluding, that the economy needs to grow much faster to solve the employment problem.

Thirdly, rampant inflation above 7 per cent for the last six months has spoilt the budget of poor households. Price rise is more pronounced in food prices; as an amelioratory measure the Government is planning to lessen the weight of food items in the Consumer Price Index (CPI), so that CPI does not rise as fast when food prices go up. Fourthly, due to costlier petrol and higher imports of gold, the trade deficit ballooned to \$70.25 billion in the first quarter of the current year, from \$31.42 billion last year. Consequently, forex reserves are going down, with the dollar-rupee exchange rate nearing 80 - a more than 8 per cent fall in the last one year.

Much of the Government's spending is financed by borrowings; total debt of the Government had increased from Rs 58.66 lakh crore in 2014-15 to Rs 139 lakh crore in 2021-22. Yet, seemingly unaware of lurking dangers, current public discourse in India is least focused on economic issues, except for the Government pointing out random achievements to show how the country had progressed in the last eight years.

The much-vaunted financial stimulus of Rs 20 lakh crore, given during the pandemic, com-



prised mostly concessional credit and loan moratoriums. Many small businesses went under because they could not repay the loans taken during pandemic times, which had been used to keep body and soul together. On the other hand, big businesses with deep pockets, evergreened their loans at lower rates, fired workers and lowered wages, citing exigencies of the pandemic, earning huge profits in the process.

According to the Oxfam International report, "Inequality Kills," the Covid-19 pandemic had diametrically opposite consequences for the rich and poor; for example, high crude prices that made domestic petrol prices surge resulted in windfall profits for oil refiners. No wonder, during pandemic times, the number of Indian billionaires grew from 102 to 142 and their wealth increased from Rs 23 lakh crore to Rs 53 lakh crore. At the same time 84 per cent households suffered a decline in their incomes, with 4.6 crore persons falling into abject poverty. Earlier, too, the "World Inequality Report 2022," and the homegrown PRICE Survey had reached a similar conclusion i.e., the emergence of an unacceptable degree of poverty and inequality in India.

Decent education and healthcare eludes most of our citizens. The coronavirus pandemic mercilessly exposed the rot in our public health system; almost all Government hospitals were found to be woefully understaffed with highly deficient infrastructure. So far as education is concerned, despite Board results throwing up a record number of students scoring more than 90 per cent marks, the quality of education imparted by our schools, except very few, is pitiable. That Board results do not reflect the true picture can be

gauged from the fact that the current year's results, when no classes were held, are better than the Board results of pre-pandemic times. The rot was not unexpected because till today, Government schools and hospitals, established by the British a century ago, are the backbone of our public health and education systems. The Government spends only 1.28 per cent of GDP on healthcare, and 3.1 per cent on education, both allocations being insufficient even for maintenance, let alone improvement.

A comprehensive approach towards tackling economic and social problems seems missing. Rather, the Government seems to be engaged in multiple firefighting exercises, with an eye on optics; for example, when prices of petroleum products rise, the Government cuts excise duty but reimposes the same duty on food products, keeping inflation unchanged.

In fact, high taxation and subsidies fuel a vicious cycle, where high taxes cut down economic activity, fuelling the need for subsidies that require more money from the Government, again leading to increased taxation.

The Government could do better to focus on unemployment and population explosion, which are at the root of most problems.

So far as population is concerned, the target-free National Population Policy 2000 has taken the urgency out of the Government's efforts for population control. Population statistics appear to be flawed; according to National Family Health Survey (NFHS)-5, the Total Fertility Rate (TFR) - the number of children a woman can be expected to have during her lifetime - has declined from 2.2 (NFHS-4, 2015-

16) to 2.0, below the replacement rate of 2.1. However, according to the UN Report "Population Prospects" our population is increasing and India will surpass China's population by 2023, reaching 1.5 billion by 2030 and 1.66 billion by 2050. All international agencies have made similar projections. Obviously, we have to design and implement a better population policy.

The key to solving the unemployment problem lies in promoting agriculture and improving rural infrastructure. Significantly, the agricultural sector was the only sector of the economy that withstood the vagaries of the coronavirus scourge, growing by 3.4 per cent in FY 2020-21. Demand for tractors, agricultural implements, fertilisers etc. kept the cash registers of many manufacturing concerns ringing. At the time when overall exports declined by 7.2 per cent, exports of agricultural commodities rose by 22.62 per cent, to Rs 3.05 lakh crores, in FY 2020-21.

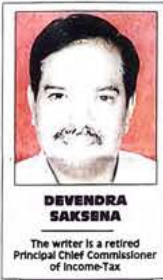
This should have provided enough reason for the Government to shed the misplaced belief that big business alone could lead us out of the woods. Yet, while announcing initiatives like Production Linked Incentives (PLI) worth Rs 1.76 lakh crore and tax cuts of Rs 1.45 lakh crore for business, the Government had only the Zero Budget Natural Farming (ZBNF) initiative, involving no budgetary allocation, for agriculture.

Despite all incentives offered to the manufacturing sector, the share of manufacturing in GDP has remained stagnant at 17 per cent for the last five years, and employment in the manufacturing sector declined sharply from 5.1 crore people in 2016-17 to 2.73 crore people in 2020-21. On the other hand, with a comparable share in the GDP, the agricultural sector employed 14.56 crore people in 2016-17 which increased to 15.18 crore people in 2020-21.

It is easy to conclude that decent investment in agriculture can transform the employment situation. Then, the unemployed can be hired to build much-needed rural infrastructure like roads, schools, bridges, airports, dams, post offices, hospitals and municipal buildings, waterworks, sewers, streets, and parks. While providing employment, projects for reforestation and flood control can also help reclaim millions of hectares of soil from erosion and devastation.

Another need is a rational and comprehensive taxation policy designed to prevent concentration of wealth and straightening out the glaring inequalities in our society - which would entail reducing GST, which is an indirect tax paid mostly by the poor, and promote direct taxation by bringing back taxes on wealth and inheritance.

As Ha-Joon Chang, the Korean institutional economist said: "Once you realize that trickle-down economics does not work, you will see the excessive tax cuts for the rich as what they are - a simple upward redistribution of income, rather than a way to make all of us richer, as we were told." (23 Things They Don't Tell You about Capitalism). *2022*



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How assessments are key to infusing life skills

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Today's fast-changing economic and social life should be met with a transformative, lifelong, all-inclusive, and rights-based education. Teaching and learning life skills – also called 21st-century skills – are extremely important for endowing children and young people with competencies to accomplish success in education, employment, and life goals. A life skill refers to optimistic conduct that includes a mix of knowledge, attitudes, behavior, values, and knowhow to excel in education and life. Life skills are crucial for today's generation.

A survey conducted by 'Save the Children' highlights the distressing impact of COVID on the well-being of children across 46 countries, including India. The survey contended that 57 percent of the children were less happy and 54 percent were more anxious due to lack of peer bonding.

The National Education Policy 2020 envisions inclusive and impartial quality education and endorses lifelong learning prospects for all by 2030. As per NEP, the goal of education is to go beyond cognitive growth for the development of holistic and well-rounded individuals to inculcate in them relevant 21st-century abilities. One way is to infuse life skills into mainstream education.

World Health Organisation (WHO) has laid down life skills to ensure a child is better prepared to face the demands and challenges in everyday life. These could enable students with a strong foundation for learning skills that are required in today's job market.

Problem-solving is a must-have skill that uses methods in a systematic manner to find solutions to problems. Creative thinking is about coming up with new, innovative ideas. Crit-



Life skills education has to be acknowledged as a methodology

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ical thinking is the capability to interpret, analyze, and evaluate and argument to make informed decisions.

Good communication skills are vital to allow others and yourself to transfer information more accurately and quickly. Interpersonal skills are crucial to communicate with and interact with other people. These life skills can be assessed by developing a rubric for assessing innovative problem solving and case analysis in groups or individually. Self-awareness is about understanding one's own emotions, thoughts, and values and how these impact behaviour across contexts. Empathy is putting oneself "in someone else's shoes". These two skills are critical for emotional intelligence which is the ability to comprehend, use, and manage your own emotions in affirmative ways to communicate effectively, relieve stress, overcome challenges and defuse conflict, and empathize with others.

Assertiveness is positive healthy confidence to stand up for self while respecting the rights of others. The right assessment of these skills can help in developing mature and empathetic

leaders. These skills can be assessed by using simulation games with well-defined parameters for outcomes.

Resilience is about bouncing back after a setback or failure whereas Grit is one's perseverance and passion for achieving life goals. A growth mindset also adds to resilience and grit as it ensures learning and a never-give-up attitude. Productivity skills allow you to become more effective, stress-free, and thus, a more prosperous individual. Brainstorming, activities, role plays, and educational games are a few tools to assess these life skills.

Life skills education has to be acknowledged as a methodology to address a variety of issues of child and youth development. Yet, few education systems have integrated life skills. One of the key reasons is challenges concerning the lack of knowledge as to how life skills can be measured, assessed, and evaluated.

While infusing life skills into mainstream education is an ambitious goal, it is noteworthy to assess the readiness of our teachers to teach life skills. Also how and to what extent the policies on life skills are being

implemented by the education system. Our teachers have a pivotal role to play in empowering our children with life skills.

Assessments Tools

Assessing learning and understanding life skill scores in a country is the first step toward realizing an education system's full potential to enhance the learning experience. The Life Skills and Citizenship Education (LSCE) framework has been developed in the Middle East and North Africa (MENA) region and aims at better equipping children and young people to create meaning out of knowledge, and to face the transitions from childhood to adulthood, from education to work, and from unreflective development to accountable and dynamic citizenship. The LSCE Measurement Instrument has been designed and tested to assess life skills – creativity, problem-solving, negotiation, decision-making, self-management, respect for diversity, empathy, and participation.

The assessment of basic language & learning skills (ABLSS) is a curriculum guide, an assessment tool, and skills tracking

system that offers a comprehensive assessment of 544 skills from 25 skill areas including social interaction, language, self-help, and academic skills that largely developing children acquire preceding to entering kindergarten. The Vineland Adaptive Behaviour Scales measure the social and personal skills of individuals like daily living skills, communication skills, socialization, along with maladaptive behaviour.

Benefits of assessing life skills

The implications of assessing the life skills for policymakers and educators is about understanding scores and distribution of life skills across the school-aged population, tracking the progress of policies and interventions designed to enhance life skills, and assessing the nature and scope of required interventions to facilitate the mainstreaming of life skills into education. Assessment of life skills has several other benefits like improving life outcomes through education policies, planned interventions, and understanding of life skills scores across the school-age population; integrating life skills into education systems through the teaching and learning process; monitoring life skills acquisition, all leading to the effectiveness of education.

Collaborative efforts are required to conceptualize and implement life skills assessment tools. These assessments should be methodical and systematic, and also should be backed by statistical models leading to in-depth analysis. Our children will be benefited from the education system that holistically assesses & re-invents itself with a focus on preparing future leaders with a life skills quotient.

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IGNOU: The gateway to open learning

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The establishment of IGNOU on September 25, 1985 by an Act of Parliament initiated the arrival of an important innovation in India. It provided a gateway to all those desirous of improving their qualifications and sharpening their academic skills, irrespective of age, region, religion and gender, through the open and distance education system. In a relatively short period since its inception, IGNOU positioned itself among the top educational institutions in the country and received the Centre of Excellence in Distance Education Award in 1993 and Excellence in Distance Education Materials in 1999 by Commonwealth of Learning. UNESCO declared IGNOU as the largest institution of higher learning in the world in 2010. IGNOU is the first higher educational institute in the open distance learning (ODL) mode accredited by NAAC in the year 2021 with A++ grade. The mandate of the University is Access, Equity, Quality and Affordability, which is in tune with the recommendations of the National Education Policy 2020.

IGNOU has continuously striven to build an inclusive knowledge society through inclusive education and is a major contributor in increasing the Gross Enrollment Ratio (GER) by offering high-quality teaching through the ODL mode through its wide network of Regional Centres (RCs) and Learner Support Centres (LSCs) throughout the country. IGNOU has certain unique features such as national jurisdiction with international presence,

flexible admission rules, individualized study, flexibility in terms of place, pace and duration of study, use of latest information & communication technologies (ICTs), nationwide student support services network, cost-effective programmes, modular approach to programmes, resource-sharing, collaboration and networking with conventional universities, open universities and other institutions/ organizations, socially and academically relevant programmes based on students' need analysis, and convergence of open and conventional education systems. University brings forth a diversity of fruitful academic offerings for a cumulative strength of over 3 million learners. As on now, the University is offering around 147 academic programmes through 23 Overseas Study Centres with footprints in 15 nations and 220 academic programme to FSRI (Foreign students residing in India). Around 80,000 international learners cumulatively enrolled for IGNOU programmes since 1997. IGNOU offer an impressive array of programmes and courses spanning awareness and appreciation programmes to research degrees; informal to formal; vocational to professional; and hands-on, skill-based to knowledge-based programmes and courses. The University is accessible to its learners including the socially and economically disadvantaged groups (SEDGs) through 67 RCs and 2100 plus LSCs to inaccessible remote areas like Leh (Sub-Regional Centre); Andaman and the Nicobar Islands (RC); 11 Recognized RCs in Defence premises with 84 LSCs; 9 RCs and 194 LSCs in the

North Eastern Region (NER); 340 SLSCs for disadvantaged groups including 163 IGNOU SLSCs in jails across India. The learners belonging to reserved categories, viz. Scheduled Castes; and Scheduled Tribes get fee reimbursement facilities as per the rules of the University. Scholarship scheme of National Centre for Promotion of Employment of Disabled People (NCPEDP) for Post Graduate level programmes is also applicable to the students of IGNOU.

The University is aware of its responsibility to play the role of a National Resource Centre for Education and Research. A largest repository of online self-learning course materials is developed through e-GyanKosh platform. IGNOU Students may view IGNOU Study Material free of cost from the University website: <https://www.egyankosh.ac.in>

At present, IGNOU is offering a number of Bachelor's and Master's degree programmes along with certificate, advanced certificate, diploma, and advance diplomas in ODL and online mode. The complete list can be assessed by a learner in IGNOU common prospectus. The varsity each year introduces a plethora of new courses as per need assessment. To make sure that Indian students learn the nuances of languages, IGNOU has introduced courses such as BA Urdu and Sanskrit, and MA English. In addition, MA programmes in Corporate Social Responsibility, Journalism & Mass Communication are also offered. IGNOU has launched academic programmes for promoting Indian languages, arts and culture. IGNOU is now offering 34 online programmes on its own

Learning Management System (LMS). In last one year, 18 online programmes were launched by the university. The online programmes are offered through the dedicated IGNOU-LMS portal and online counselling is conducted through online conferencing tools like Google Meet, Microsoft Teams and Zoom.

Students already enrolled in a programme of one year or longer duration may also simultaneously register themselves for IGNOU Programmes, such students have to adjust for any clash of counselling dates/examination schedule. The University has adopted the 'UGC Guidelines for Multiple Entry & Exit in Academic Programmes offered in HEIs. There are at present 23 programmes (22 Master's & 1 Bachelor's) with an option of pre-exit of PG Diploma/ Diploma after completion of the first year courses.

Learners interested in admission can visit the official IGNOU website and register for the respective programmes. They may choose any available LSC activated for that programme. Once the admission form is received by the centralized admission team, it is thoroughly scrutinized as per the programme eligibility criteria. The prospective students are advised to remove the discrepancy within a stipulated time, in case of any discrepancy observed in their admission form. After confirmation the learners may download their IGNOU Identity card online.

Singhal is Assistant Regional Director, IGNOU Regional Centre, Delhi-1 and Hasan is Regional Director I/C, IGNOU Regional Centre, Port Blair

HT m2

Why skill-based learning is necessary

Sachin Gupta

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India being a young country with more than 70% of the total population in the working age group i.e., 15-64, being employed becomes a major concern. Here, skills-based education plays a vital part in preparing the learners for the future.

Skill based learning is basically consuming knowledge through hands-on practice. With the changing times skills have become extremely important and processing and applying the concepts in real life situations has proven to be immensely beneficial.

So, here are some of the most valuable reasons to why skill-based education is important.

Gain experience

Experience is a term which is profoundly used by employers while interviewing a candidate irrespective of their age.

Here, skill-based education provides the students with an educational platform wherein, the students are exposed to practical work that helps them build their career and become the best in it.

One of the major reasons why gaining experience at a young age is beneficial because students are able to acquire a shift of thought from achieving good grades to learning real life skills. These experiences are not acquired in our traditional method of education and thus,

skill-based education has become the new form of education.

Effective and purpose driven

In skill-based education students are catered to receive a clear objective and maintain a vibrant culture, and is a perfect combination of opinions, values and routine which helps to build a strong foundation among students. Post-covid, the skills-based sector is likely to see a rise in demand and thus students need to brace themselves up to qualify the post of job opportunities in various sectors like health, sanitation, technology and many more. Skill based education is one of the methods that can help to reduce the unemployment statistics in our country.

Enhances adaptability

People have now understood the importance of skill-based learning as it has proved to benefit the students in their professional life as well as in their personal chores. Skill based learning develops the skill of adaptability within students that help them to adjust with different people and conditions which is one of the most important aspect people face difficulty with in their professional life. It enables the students to test themselves in different situations and enhance their skills gradually.

Good communication

skills

Having a good communication skill has a great importance in the society and in the job sector. The students who are our future generation have a vital role in today's life and thus needs to pay a close eye on their communication skills.

Communication skills is essential and every student must have these, so that they can convey their thoughts and ideas easily with each other in their organization and setting. Skill-based education develops the skills of communication skill and thus is found to be an important medium of education required for every child.

Learn to deal with stress

Stress is a concept which is widely seen in today's life and needs to be managed accurately if not it may affect the physical and mental being of a person. It is no doubt students undergo an immense pressure be it education or social life, with the help of skill-based education it tutors the students to deal with stress and cope up with them and hence is one of the most appreciated modes of learning.

Building perspective

Skill-based education rejects the theory of rote learning which is equally visible in the traditional medium of education. In the traditional education skills are often neglected however skill-based education exposes the students to experience scenarios

and evaluate them, doing so helps the students to become a successful employee who understands the importance of situations and concerns.

Being flexible

One of the most important reasons why skill-based education has gained its popularity is because of its flexible functionality.

Skill-based education allows its students to learn at their own pace and time and helps them to understand better.

The skill-based education values more on a student's skill and potential rather than grades which is prioritized in traditional education.

Skill based education is a blessing in disguise for those who are drop outs as they can continue their education without taking a gap.

The skill-based education is structured in such a way wherein the students can have complete control on their medium of learning with the help of assessments and projects.

Constant practical knowledge is very essential to enhance the aptitude and process information in a better way. Now as there are more new opportunities and roles in the industry, skill-based education is a priority for the workforce of tomorrow.

The author is chancellor, Sanskriti

University
AT/M3

FIRST COLUMN**TEACH RAMAYANA FOR ETHICS, MORAL VALUES**

Management curriculum should include the Ramayana



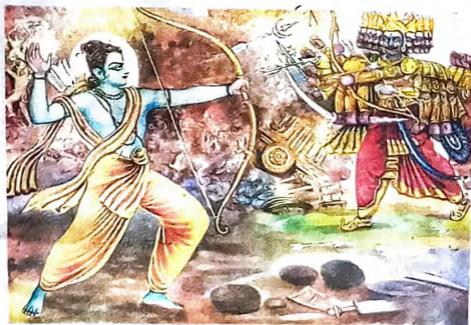
PRAMOD PATHAK

The Ramayana, the most widely read Indian epic, is not just a scholarly narration of the life and times of Lord Ram but also a treatise on management principles, the most modern of the applied social sciences. It has lessons on politics, strategy, economics, commerce, values and ethics, leadership and even the recent subject areas like CSR.

Ramayana deals with all aspects of management practices in a very lucid, yet comprehensive manner. But it's quite a surprise that Indian business schools have not considered it as a text or even a reference in the course curriculum as suggested readings. This one piece of literature can offer valuable insights on different subjects that form the part of a typical business school curriculum.

While copious western literature finds place in a standard course structure of a business school programme, Ramayana that can offer vital clues to management practices to the students of business schools is found missing. Anyone who has gone through the text of Ramayana, either Ramcharitmanas by Goswami Tulsidas, or Valmiki Ramayana, would know that crucial management lessons are offered in this Indian epic through the actions of various role players like Lord Ram, his three younger brothers, his wife Sita and Hanuman.

The best part of Ramayana is that the main lead played by Lord Ram provides immensely valuable lessons on what ethical conduct is all about. Values and ethics these days are given great emphasis in the course content and form a significant portion of the curriculum in almost every business school as business organisations are emphasizing ethics and morality.



Raising the morality quotient has become a major concern today. It has become an important attribute of managerial quality gaining precedence over intelligence quotient. Lord Ram has led by example. He is an epitome of values and ethics and a role model to be emulated. He is also a picture of humility, commitment and character.

Humility, it may be recalled, is a highly thought after managerial quality. Similarly, his brothers also show what ethical conduct is all about. These are the times when everyone is hankering for power and pelf. But here is a person who, despite being the legitimate heir to the throne, is magnanimous enough to let go of the authority to rule just to keep his father's words. The entire population of the kingdom wanted him to be the ruler. But he declined.

The beauty of the whole Ramayana is that his younger brother Bharat, who was given the throne, is equally unwilling to occupy the throne, because he thinks it was not legitimate.

Ramayana also contains some very crucial lessons on statecraft. In fact, the dialogue between Ram and Bharat in Ayodhya khand is a treatise on administrative wisdom. No aspect of administration has been left out in that discussion. The Valmiki Ramayana presents this aspect very comprehensively. Duty, sacrifice, integrity, values and righteousness is reflected in behaviour of all leading characters. Not only this, there are strategy lessons to be picked up on teamwork, project management, human resource management and warfare.

It will be an understatement to say that Ramayana is a text that contains lessons for management practitioners. In fact, Ramayana is a complete text on social sciences dealing with all dimensions. It is a handy reference material and needs to be included in the Management program.

(The author is Founder of The Goodness Movement and Kaizen Mantra)

Locking up school

Shortage of teachers hampers literacy drive

THE urban-rural divide in the field of education, exacerbated during the pandemic, has again been brought to the fore by the incident at Lehal Khurd village of Sangrur district, where residents locked up the local government primary school to protest against a shortage of teachers. They insisted that the school would not be allowed to function till it had the required number of teachers. The school has just two teachers for 200 pupils, raising doubts over the attention being paid to improve the quality of education in the village. Government schools had come under scrutiny after the Covid-19 lockdown forced millions of migrant workers and their families to return from cities to small towns and villages. While schools in urban areas were able to continue with online classes, those in rural areas had to face difficulties in the absence of adequate technology-enabled learning tools.

Punjab has, from time to time, seen protests by teachers demanding jobs and regularisation of their service. The Sangrur incident calls for assessing the reasons behind the shortage of teachers despite the claims of the government of providing adequate number of teachers and amenities. Government schoolteachers also have to perform a host of duties besides teaching. Working in rural and remote areas can mean enduring hardships and incentives may not be out of place. Appointing properly qualified teachers is a pre-requisite not just for imparting quality education but also preventing students from dropping out. The government recently urged the schools to restart the midday meal scheme that had to be discontinued after the onset of the pandemic as a precautionary measure.

In its first budget, the AAP government in Punjab had promised 'schools of eminence' in terms of upgrade and posting of estate managers for the upkeep of a cluster of government schools, besides providing infrastructure such as digital classrooms. It would only be proper for the government to work harder to overcome the impediments and bring about a qualitative change in the field of education. *21/6*

न सम्मान-न पैसा, कोई क्यों बने सुपर स्पेशलिस्ट

इस साल भी सुपर स्पेशिएलिटी में काफी सीटें खाली रह गई हैं। एमसीसी ने इसमें एडमिशन का परसेंटाइल जीरो तक कर दिया है, फिर क्यों नहीं आ रहे हैं स्टूडेंट्स?



डॉ. संजय तेवतिया

भारत के मेडिकल कॉलेजों में सुपर स्पेशिएलिटी में तकरीबन साढ़े सात सौ सीटें इस साल खाली रह गई हैं। एमसीसी ने इन्हें भरने के लिए जीरो परसेंटाइल तक की बात कही है। जीरो परसेंटाइल, यानी अगर सुपर स्पेशिएलिटी की प्रवेश परीक्षा में किसी के शून्य अंक हों, तो भी वह इसमें एडमिशन ले सकता है। इसके बावजूद स्टूडेंट्स, बल्कि यूं कहें कि अपनी फील्ड के स्पेशलिस्ट डॉक्टर सुपर स्पेशिएलिटी में जाने के इच्छुक नहीं दिख रहे हैं।

पिछले कुछ सालों से भारत में औसतन ढाई हजार से अधिक सुपर स्पेशलिस्ट नहीं निकल पा रहे। इसमें होने वाली नीट काउंसिलिंग को लेकर सुप्रीम कोर्ट भी अपनी चिंता जता चुका है। आखिर क्या वजह है कि हर साल सीटें खाली जा रही हैं? आइए समझते हैं :

● एक मेडिकल स्टूडेंट को एमबीबीएस के साथ स्पेशलाइजेशन लेने में 9 साल लगते हैं। बगैर

अपनी फील्ड के स्पेशलिस्ट बने वह सुपर स्पेशिएलिटी की पढ़ाई नहीं कर सकता।

● स्पेशलाइजेशन के बाद सुपर स्पेशिएलिटी के 3 साल और जोड़ दीजिए तो कुल मिलाकर यह 12 साल का कोर्स हो जाता है। तब तक स्टूडेंट की उम्र आमतौर पर 30 से 32 साल पार कर जाती है।

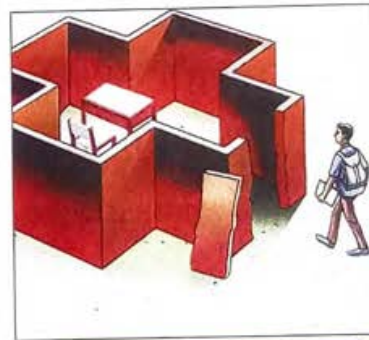
● कुछ सुपर स्पेशिएलिटी में जाना लोग कम पसंद करते हैं। इनमें प्रमुख हैं- पीडियाट्रिक मेडिसिन, जेनेटिक मेडिसिन, कैंसर सुपर स्पेशिएलिटी, न्यूरोलॉजी सुपर स्पेशिएलिटी।

● आमतौर पर लोग उसी सुपर स्पेशिएलिटी में जाना पसंद करते हैं, जिनमें वे अपना अच्छा सेटलमेंट कर सकें। इनमें प्रमुख हैं- कार्डियोलॉजी, नैफ्रोलॉजी, नेफ्रो सर्जरी आदि।

फिर भी लोग डीएम, एमसीएच जैसी सुपर स्पेशिएलिटी डिग्रियां लेने पहुंचते ही हैं। मगर उसके बाद इन डॉक्टरों के सामने कुछ प्रैक्टिकल दिक्कतें आनी शुरू होती हैं :

● सबसे पहले तो सरकार उनसे एक बॉन्ड भरवा लेती है। इसके चलते एक सुपर स्पेशलिस्ट अपना करियर 40-42 साल की उम्र से पहले शुरू नहीं कर पाता है।

● स्पेशिएलिटी की डिग्री पाने के बाद मेडिसिन का स्पेशलिस्ट हर फील्ड का मरीज देख सकता है, जबकि सुपर स्पेशलिस्ट तभी इन



कॉमन रूम

मामलों को देख सकता है, जब केस बेहद गंभीर हो।

● सुपर स्पेशलिस्ट के लिए बड़ा सेटअप, बड़े ऑपरेशन थिएटर और ट्रेंड स्टाफ चाहिए होता है। इसमें करोड़ों रुपये लगते हैं। अक्सर सुपर स्पेशिएलिटी की पढ़ाई करके निकले डॉक्टरों के पास इतने पैसे नहीं होते।

● सुपर स्पेशिएलिटी के बड़े सेटअप आमतौर पर मेडिकल कॉलेजों में ज्यादा हैं। आजकल कुछ प्राइवेट अस्पतालों में भी सेटअप हैं। लेकिन ये इतने महंगे होते हैं कि सुपर स्पेशलिस्ट बहुत सारी चीजों में बंध जाता है।

● मरीज बिलकुल अंत में सुपर स्पेशलिस्ट के

पास पहुंचता है। वह बेहद गंभीर होता है। केजुअल्टी की आशंका भी ज्यादा रहती है। हालांकि सुपर स्पेशलिस्ट अंत तक मैन्युअल करते हैं। पर जब मरीज की डेथ हो जाती है तो फिर ज्यादा दिक्कतें सामने आती हैं।

● डॉक्टर भी आखिरकार हमारे समाज का ही व्यक्ति है। लगभग 24 साल की पढ़ाई के बाद वह भी आर्थिक रूप से मजबूत होना चाहता है। लेकिन सरकारी और प्राइवेट में इनकी पैमेंट बहुत अच्छी नहीं होती है।

● इसीलिए डॉक्टर सुपर स्पेशिएलिटी में प्रायः तभी जाते हैं जब उन्हें अपनी पसंद का विषय मिलता है। अगर उनकी चॉइस का सब्जेक्ट नहीं मिला तो वे सुपर स्पेशिएलिटी में एडमिशन नहीं लेते।

देश में फिलहाल लगभग दस हजार सुपर स्पेशलिस्ट हैं। मानकों के हिसाब से इनकी संख्या 35 से 40 हजार होनी चाहिए। यहां तक कि सुपर स्पेशिएलिटी अस्पताल भी देश में साढ़े छह सौ से अधिक नहीं हैं।

कैसे सुलझे समस्या : सबसे पहले तो सुपर स्पेशलिस्ट से सरकार जो बॉन्ड भरवाती है, वह बंद होना चाहिए। तनख्वाह इनकी चाहे सरकारी हो या प्राइवेट, वह हर हाल में अच्छी होनी चाहिए। ये दोनों चीजें हो जाएं तो संभव है कि सुपर स्पेशिएलिटी की सीटें हर साल भरने लग जाएं।

(लेखक उग्र स्वास्थ्य विभाग में जॉइंट डायरेक्टर हैं)

Guru Can Show You The Straight Path To Happiness

VS Krishnan

In the midst of darkness, there is only one who can provide the light, and lead us to our destination. He is the Master called Guru, who helps the individual to distinguish between matter and spirit, real and unreal, and truth and myth. It is the guru who elevates the devotee from the world of maya to the ultimate state of Truth.

According to Vedic texts, the guru is held in high reverence, equal to God. He is considered a living God. He reveals the truth contained in the Vedas and scriptures in a way easily understandable. A Sanskrit hymn says: 'Salutations to the teacher-disciple tradition starting from Sadashiv with Adi Shankara in the middle and continuing up to my immediate teacher - Sadashiv Samarambham.'

Everyone aspires for happiness,

but its concept differs from person to person. Happiness eludes those who seek it from outside sources. It is the mind that causes delusions. If one rises beyond the mind, he will realise his real natural state and attain the highest state of bliss. It is precisely for the purpose of pointing out the straight path towards happiness that Shiv took the form of Adi Shankara. Through his various commentaries, Shankara, the Advaita philosopher, said that through Jnana, knowledge, alone real bliss is achieved. There are various means to attain knowledge, like study of scriptures, introspection, or self-inquiry, but the most effective means is by seeking the grace of the guru.

For one who is humble, devoted and dedicated, the guru appears at the right time. Anandagiri, one of the

ideal disciples of Adi Shankara, was not knowledgeable but humble and full of love towards his Master. When Shankaracharya was passing through Karnataka, Giri went and prostrated before him, seeking his sharan, refuge. Acharya said, 'Through pure devotion and humility one

becomes enlightened, and I accept you as one of my disciples.' Giri then dedicated himself to the service of Adi Shankara. While Hasthamalaka, another disciple, identified himself as the Self, Atman,

Giri identified himself totally with his guru. Giri considered Atman and guru as one and the same. In Acharya's spiritual sessions, Giri would only be a silent spectator; he would sit without participating in any discussion. Once, while beginning a spiritual session, Acharya waited for

the arrival of Giri, who was washing clothes nearby. The other disciple asked Shankaracharya to go ahead with the class, as Giri wouldn't understand anything in any case. Acharya then called Giri and graced him with higher knowledge, and Giri composed eight verses called Totakashtam, regarded as the highest work of jnana.

When Arjun, a warrior and master of archery, hesitated to take up arms, Krishn said: "Who are you to refrain or to act. Give up the notion of doer-ship. You are merely a tool in the order of Higher Power."

Taking the role of Jagadguru, Krishn said that the only way by which one can gain real knowledge, Self-knowledge, is by approaching the guru who has realised it himself.

In short, it is the guru who helps the devotee to know that he is not a mere physical entity but a spiritual being, poised to reach the higher goals in life.



THE SPEAKING TREE

Learner-centric classrooms may enhance outcomes

Interactive learning approaches employing various methods can give a quantum jump in learning outcomes

Most adults have experienced sitting passively in classrooms, as the teacher delivered monologues. Today we know such experience is not optimal and must be replaced with interactive, student-centred learning environments.

In the last few decades, educators have recognised the importance of interactive learning approaches. Research has established that learning rarely happens effectively in one-way lectures. In interactive learning environments, students are actively engaged. This can be done in a variety of ways, asking the students questions, making students work with peers and in teams, introducing hands-on experiences.

The students are actively engaged by speaking or doing



Najwa ZAHEDI

(The author is Director, The Green Acres Academy)

during the learning process. Student-centred classrooms leverage individual student qualities for deeper learning. Student-centred learning, also called Learner-centred approaches, is another pedagogical approach, growing importance.

Student-centred approaches acknowledge that students are unique individuals with diverse interests, strengths and preferences for learning, while affirming that one size does not fit all. Good teaching requires us to know students well, and use this knowledge to make instructions more effective. This can be done by incorporating students' interests into the lessons, connecting the contents to their surrounding contexts to make them relevant, while differentiating

learning to suit different paces and preferences of learning, etc.

The positive impact of interactive learning can be enhanced further when Student-centred pedagogy is incorporated. This can be done at three levels - body; behavioural, sensory engagement; mind; cognitive/ intellectual engagement; and heart; emotional/ motivational engagement.

To promote behavioural engagement, we must have a learning environment or strategies that enable students to stay on task during the learning process. It's promoted by interactive learning strategies such as asking questions to help students stay attentive and using multi-modal interactive media to engage the senses.

The students can be given

opportunities to co-create classroom rules, which helps in making the learning more student-centred, and teachers can co-create the rules or classroom agreements with their students. This builds a sense of ownership and shared responsibility among students.

Engaging students cognitively means that students are actively thinking about what they are learning. Students must also be intellectually engaged in the process for deeper learning.

Interactive strategies like questioning and group work can promote intellectual engagement. The students can be given opportunities to express their thinking, as interactive pedagogy is more powerful when it encourages students' participation, making

them to express their own opinions and listen to others. Group work and digital polling tools can also be used to give students the opportunity to share their ideas at the same time. When students are intellectually engaged they are more likely to retain it for longer.

Different students learn at varying paces. One-size-fits-all make the students rush through the process, which leaves gaps in foundational knowledge. Differentiating the pace of instruction can promote better learning for all. Advances in technology now give us options to create learning resources that can be accessed asynchronously. This can promote a great deal of self-paced learning.

Emotionally engaging students means making them

excited, curious and motivated. We do not want students to learn simply, because they are being watched by a teacher or only for a grade on a report card. Learners should be driven by their curiosity and passion. Interactive learning strategies like collaborative learning and hands-on, project-based learning can promote this.

Students should be given opportunities to learn with peers, which promotes interaction. But beyond that, peer learning, with the right classroom culture of course, can create safe learning spaces in which students are encouraged to reach out to peers to demonstrate or clear doubts. It is much less intimidating to reach out to a peer for support instead of always asking the teacher.

Also the students should be given opportunities to make interest-based choices during the learning process. Having a say in what they learn makes learning more meaningful and helps build self-directed learning habits. Student-centred learning provides students with 'voice and choice' in their projects along with sustained inquiry and reflection. Student-centred approaches can enhance one-size-fits-all interactive learning approaches to promote engagement that goes beyond compliance or participation. It extends to cognitive engagement (mind) that intellectually stimulates and emotional engagement (heart) that motivates. This higher level of engagement leads to deeper, enduring learning for students.

The dream and the reality of education

NEP or not, schools in India will suffer until govts realise holistic education alone can build a strong society

VATSALA VEDANTAM

“Learning should be holistic, integrated, inclusive, enjoyable, engaging...” says the new National Education Policy 2020, while visualising an India where children of every caste, class and colour will study in schools whose teachers are kind, environment friendly and study, fun. Where children come laughing to school, where there is no discrimination, where learning matters more than marks, where grades do not label children as bright or dull. Schools which do not leave parents in debt; which do not load pupils with homework and private tuitions; which do not make ranks and grades the hallmark of success. Where children learn the value of kindness, consideration and cleanliness.

It's a remarkable policy paper that hopes to see a new India with an infallible system of education that will ensure a future generation of ideal citizens. While, presently what do we see around us?

School principals of reputed institutions sacked for serious offences. Teachers meant to protect children from sexual abuse themselves guilty of the same. Again, private schools affiliated to all India councils and boards violating every prescribed norm. Government schools in remote places with no books, no blackboards, no desks, no water, no bathrooms, no buildings and worst of all, no teachers.

The authors of the NEP were certainly well intentioned. They want all these deficiencies repaired and high educational standards restored. But, how? That's the million dollar question. It will take plenty of resources, both financial as well as human, to establish those flawless schools that can provide an idyllic learning environment. It will also require political will and intention to plough money into schools rather than on weapons of war.

How many governments in this country understood the value of establishing good schools in the country to bring up a whole generation of useful citizens? How many legislative bodies considered the holistic education of every child meant creating a strong society of responsible citizens? Seventy five years of freedom from foreign rule (that has always been touted as a cause for all our ills) has not improved our education system. Every few years, a newly elected government dreams up a “new” education policy which is nothing but a mish mash of the older ones.

Take the concept of Early Childhood Care and Education (ECCE). What is it but a poor imitation of the Integrated Child Development Scheme (ICDS) launched by UNICEF where the concept of the Anganwadi was first mooted. That programme (the first of its kind in the world) aimed at providing education and health services to infants in the vast slums of India where state governments worked with the slum dwellers to provide a package of services that included early childhood care like proper nutrition, immunisation and education. The last was not about teaching the alphabets and numbers but about observing good hygiene and cleanliness to prevent infections and life threatening diseases. The classrooms were not in schools but in public places like temples and in their own homes. The ICDS took education right into the homes of children where their parents themselves delivered the goods and also got educated in the process.

Borrowing this core idea with modifications of its own, the NEP declares that its ECCE programme would ensure that the young beneficiaries would be “school ready” having developed “social capacities, sensitivity, good behaviour, courtesy, ethics, personal and public cleanliness, teamwork and cooperation.” A tall order that can be accomplished with a magic wand. At least, in the case of the ICDS, the likely obstacles to the programme were kept in mind all the time. Similar changes incorporated into earlier education policies, make the NEP a weak imitation of earlier policies. Change for the sake of change like altering school education from 10+2+3 into 5+3+3+4 is a meaningless exercise.

This is not to flog the authors of the NEP or its intentions. When school education has become a nightmare for parents, both rich and poor, with its plethora of problems starting with admissions and followed by promotion practices (read as malpractices) meaningless home assignments (done largely by parents) and private tuitions conducted by the same teachers in the same classroom. A pragmatic strategy that can easily be translated into practice is what we need at the moment. Until that is accomplished, school education will continue to be a trauma for parents.

Ironically, a country where education is crucial for its very survival among nations, cannot boast of any government in these last 75 years which prioritised this sector while allocating its budget. While we are ready to plough money into defence or sign contracts for weapons of destruction, no regime has shown the will to spend freely on health or learning. We have yet to recognise the power of the chalk and pencil which are the only weapons that can take a nation forward. 22/6/6

सिर्फ कागजों पर एम्स की संख्या बढ़ाने से नहीं सुधरेगी स्वास्थ्य सेवा टूट क्यों रहा सुपर-डॉक्टरों का मन

Sunil Kataria



डॉ. अंशुमान कुमार

इस साल भी मेडिकल कॉलेजों में सुपर स्पेशिएलिटी की काफी सीटें नहीं भर पाईं। यह तब है, जब सरकार लगातार मेडिकल कॉलेज खोल रही है, एम्स की संख्या भी बढ़ा दी गई है। लेकिन क्या इन सब में स्वास्थ्य सेवाएं ठीक से उपलब्ध हैं? कागजों पर जो एम्स और मेडिकल कॉलेज बदे, वे पारिभाषिक रूप से फंक्शनिंग नहीं हुए। लेकिन सिर्फ यही वजह नहीं है कि सुपर स्पेशिएलिटी में सीटें नहीं भरीं।

एम्स दिल्ली सुपर मॉडल प्रॉजेक्ट है, मगर इसी में ठीक से काम नहीं हो पा रहा है। कैसर तक के ऑपरेशन में छह महीने बाद की डेट मिलती है। लेकिन राष्ट्रीय स्तर पर बात करें तो कई और पहलू उभरते हैं। आइए जरा उन्हें भी देख लें:

- दूसरी जगहों के एम्स और मेडिकल कॉलेजों में सुपर स्पेशलिस्ट काम कर सकते हैं, पर वहां मशीन है तो तकनीशियन नहीं हैं। तकनीशियन है तो नर्सिंग स्टाफ नहीं है। दोनों हैं तो ऑपरेशन के लिए ट्रेड लोग नहीं हैं।
- सुपर स्पेशलिस्ट से बॉन्ड लिखवाया जाता है कि कम से कम तीन साल तो उसे सिर्फ रेफरल जॉब करनी है। मतलब डिग्री लेने के बाद कम से कम तीन साल तक वह अपनी डिग्री का यूज नहीं कर पाएगा, और जो कुछ भी करेगा, वह फ्री में ऐसी जगह पर बैठकर करेगा, जहां उसे कुछ करने की सुविधा ही नहीं है।
- सुपर स्पेशिएलिटी की सीट छूटने की एक वजह यह भी है कि कार्डियक और प्लास्टिक सर्जरी की ब्रॉचेस में सीट काफी हो गई है और मेडिकल कॉलेजों में उनकी उतनी सुविधा नहीं है। खासकर प्लास्टिक सर्जरी के लिए।
- स्वास्थ्य व्यवस्था के लचर होने में आरक्षण भी एक वजह है। डिफेंस, डीआरडीओ या साइंस रिसर्च में सरकारें मानती रही हैं कि इन चीजों से समझौता नहीं हो सकता तो क्या लोगों की जान इतनी सस्ती है?
- एमबीबीएस में प्रवेश तक तो आरक्षण का स्वागत है। लेकिन उसके बाद सबको एक ही सुविधाएं मिलती हैं, इसलिए पोस्ट ग्रेजुएशन और सुपर स्पेशिएलिटी में आरक्षण नहीं होना चाहिए। एमबीबीएस के बाद ओपन एंट्री सिस्टम हो, ताकि डॉक्टरों का लेवल तो एक हो सके।
- मेडिकल कॉलेज रिसर्च के सबसे बड़े हब हैं। वहां लाखों मरीज आते हैं। अगर वहां सुपर स्पेशलिस्ट के लिए पूरी सुविधा हो तो नई-नई रिसर्च सामने आ सकती है। इलाज के नए-नए तरीके खोजे जा सकते हैं, लेकिन उनमें रिसर्च की पूरी सुविधा नहीं है।

एसी कमरों की नीतियां

अगर कोई सुपर स्पेशलिस्ट जॉइन भी कर ले तो पता चलता है कि वहां उससे कम डिग्री पाया हुआ जूनियर ही उसका सीनियर है।



दिल्ली एम्स स्थित ओपीडी में मरीजों और परिजनों की लंबी कतार

पोस्ट ग्रेजुएशन और सुपर स्पेशिएलिटी में आरक्षण नहीं होना चाहिए। एमबीबीएस के बाद ओपन एंट्री सिस्टम हो, ताकि डॉक्टरों का लेवल एक हो सके

वहां भी प्रमोशन में आरक्षण का चक्कर है। ऐसे में डॉक्टर डीमोटिवेट होता है। जो इसे पहले से जानते हैं, वे एडमिशन नहीं लेते। जो किसी तरह से आ भी जाते हैं, उनके सामने दो रास्ते बचते हैं। या तो वे देश में कोई कॉरपोरेट अस्पताल जॉइन करे या देश ही छोड़ दें। जो बाकी बचते हैं, उनकी अगली समस्या काम करने के माहौल की होती है। सरकारी में सुविधा नहीं तो कॉरपोरेट में डॉक्टर पर टारगेट का प्रेशर डाला जाता है। बहरहाल, स्थिति कैसे सुधरे, यह भी देखने वाली बात है:

- सरकार चाहे तो इसमें से हर चीज कंट्रोल कर सकती है। कॉरपोरेट पर जैसे ही सरकार डॉक्टरों के लिए सैलरी की जगह फ्रीस बेसिस करेगी, कॉरपोरेट अस्पताल खुद को बिजनेस हब मानना बंद कर देगे और डॉक्टर भी उपलब्ध रहेंगे।
- एसी कमरे में बैठकर नीति बनाने वालों को जमीनी हालत का पता नहीं होता। वे सरकारी डॉक्टरों की राय लेते हैं, जो इसी सिस्टम की वजह से नाकारा हो चुके हैं।
- हिंदुस्तान में इलाज की नीतियों के लिए कॉलेजियम बनाना होगा, जिसमें सरकारी और प्राइवेट सेक्टर के टॉप क्रेडिटिबिलिटी वाले डॉक्टर हों। अगर आईएएस नीति बनाते रहेंगे तो एक दिन ऐसा आएगा, जब खुद नीति बनाने वालों को देश में अच्छे डॉक्टर नहीं मिलेंगे।
- भारत से बाहर जब किसी को रेफर करना होता है, तो सिंगापुर

टॉप चॉइस होती है। सिंगापुर में जनरल अस्पताल सरकारी हैं, उन्होंने हरेक सुविधा दे रखी है। हम यही चीज भारत में क्यों नहीं कर सकते हैं कि किसी को रेफर करना ही ना पड़े। दूसरे देशों से लोग रेफर होकर हमारे सरकारी मेडिकल कॉलेजों या अस्पतालों में आएँ।

कॉरपोरेट बनाम सरकारी

दूसरे देशों से आने वाले लगभग सौ फीसदी मरीज कॉरपोरेट अस्पतालों का रुख करते हैं। भारत में सिर्फ आठ से दस फीसदी आबादी ही कॉरपोरेट अस्पताल अफोर्ड कर सकती है। 80 करोड़ लोगों को भुखमरी से बचाने के लिए फ्री राशन बांटा जा रहा है। आयुष्मान भारत जैसी कोई भी योजना इसे पूरा नहीं कर सकती क्योंकि कॉरपोरेट अस्पतालों में इलाज का खर्च महंगा होता जाएगा। अगर प्राइवेट के छोटे संस्थान स्पेशलिस्ट से लेकर सुपर स्पेशलिस्ट तक मैनेज कर ले रहे हैं तो सरकार के पास तो बहुत बड़ा तंत्र है, एक इयूरोबल मॉडल है- वह क्यों नहीं कर सकती? और अंत में, सरकार कम से कम अपने बनाए कानूनों का पालन तो सुनिश्चित करवाए। नियम है कि एमडी मैडिसिन भी दिल के मरीज का इलाज नहीं कर सकता। उसे मरीज को कार्डियॉलजिस्ट को रेफर करना होगा। मगर इन दिनों बाबा लोग टीवी पर आकर कुछ भी बोल देते हैं और सरकार में शामिल लोग उसे एंडोर्स भी करते हैं। यूके के नेशनल हेल्थ सिस्टम ने भारत को नोटिस भेजा है कि डायबिटीज के बारे में जो आपके बाबा लोग मरीजों को गुमराह कर रहे हैं, उस पर रोक लगाइए। पर ऐसा ही नहीं रहा है तो डॉक्टरों का मनोबल कमजोर होना स्वाभाविक है।

(लेखक वरिष्ठ सर्जन हैं)

प्रस्तुति: राहुल पाण्डेय

NBT/6/14

प्रश्नों के घेरे में परीक्षा

केंद्रीय विश्वविद्यालयों समेत अन्य विश्वविद्यालयों में प्रवेश के लिए आयोजित की जा रही दूसरे चरण की परीक्षाएं जिस तरह तकनीकी समस्याओं के कारण बार-बार स्थगित हो रही हैं, उससे छात्र एवं अभिभावक तो परेशान हो ही रहे हैं, इन परीक्षाओं को संपन्न कराने वाली नेशनल टेस्टिंग एजेंसी की क्षमता और प्रतिष्ठा पर प्रश्नचिह्न भी लग रहे हैं। चूंकि कामन यूनिवर्सिटी एंट्रेंस टेस्ट के तहत होने वाली परीक्षाओं में लाखों छात्रों ने पंजीकरण कराया है, इसलिए यह अनुमान सहज ही लगाया जा सकता है कि तकनीकी कारणों से परीक्षा स्थगित होने के कारण बड़ी संख्या में छात्रों को असुविधा का सामना करना पड़ा होगा। ध्यान रहे कि पहले चरण की परीक्षाओं में भी छात्रों को कई तरह की समस्याओं से दो-चार होना पड़ा था। तब कई छात्रों को इसलिए परेशानी उठानी पड़ी थी, क्योंकि अंतिम समय में उनके परीक्षा केंद्र बदल दिए गए थे। यह ठीक है कि इसके कारण जिनकी परीक्षा छूट गई थी, उन्हें आगे परीक्षा में बैठने का अवसर प्रदान किया गया, लेकिन यह ठीक नहीं कि ये परीक्षाएं बार-बार तकनीकी बाधा से दो-चार होती रहें। अभी तक दूसरे चरण की तीन बार परीक्षाएं हुई हैं और तीनों बार किसी न किसी कारण कई शहरों में उन्हें स्थगित करना पड़ा है।

किसी परीक्षा में एक बार व्यवधान तो समझ आता है, लेकिन तीन बार ऐसा होना किसी बड़ी खामी की ओर संकेत करता है। नेशनल टेस्टिंग एजेंसी को न केवल उन कारणों की तह तक जाना चाहिए, जिनके चलते परीक्षाओं में बार-बार व्यवधान उत्पन्न हो रहा है, बल्कि उनके बारे में देश को अवगत भी कराना चाहिए। केंद्रीय विश्वविद्यालयों समेत अन्य विश्वविद्यालयों में प्रवेश कामन यूनिवर्सिटी एंट्रेंस टेस्ट के माध्यम से होगा, यह बहुत पहले ही तय हो गया था, लेकिन लगता है कि इसे लेकर आवश्यक तैयारी नहीं की गई। जो भी हो, इसकी अनदेखी नहीं की जा सकती कि नेशनल टेस्टिंग एजेंसी का गठन प्रश्न पत्र लीक होने और परिणाम घोषित होने में देरी को रोकने के साथ-साथ परीक्षाओं की विश्वसनीयता बढ़ाने के उद्देश्य से किया गया था। एक अन्य उद्देश्य परीक्षाओं को सुगम तरीके से कराना भी था। यह निराशाजनक है कि ऐसा ही नहीं हो पा रहा है और कामन यूनिवर्सिटी एंट्रेंस टेस्ट के दूसरे चरण की परीक्षाएं छात्रों की परेशानी का कारण बन रही हैं। यह स्थिति तब है, जब अभी केवल 34 केंद्रीय विश्वविद्यालयों के साथ लगभग 90 विश्वविद्यालयों में ही प्रवेश के लिए परीक्षाएं कराई जा रही हैं। यह आवश्यक ही नहीं, अनिवार्य है कि सुगम तरीके से परीक्षाएं संपन्न कराने के मामले में अनुकरणीय उदाहरण प्रस्तुत किया जाए। (10)

Celebrating Sri Aurobindo on 150th birth anniversary

RENU SUD SENHA

HE was the first proponent of 'Purna Swaraj' more than 30 years before the Indian National Congress' declaration in 1930. Sri Aurobindo (born Aurobindo Ghosh on August 15, 1872) was a philosopher, poet, journalist, yogi, revolutionary and much more. He was one of the first nationalist leaders to put forth in his newspaper, *Bande Mataram*, the idea of complete independence of India and developed a radical approach to achieve that goal that included non-cooperation, passive resistance, use of *swadeshi*... years before these became a catchphrase in India's freedom movement. "And yet, he remains brutally cancelled by Indian academics, Indian education and Indian mainstream media," rues Gautam Chakraborty, whose soon-to-be-released book, *Reading Sri Aurobindo*, seeks to remedy this lacuna in the 150th year of his birth anniversary.

"Despite being an important person in India's political life and philosophical and spiritual traditions, and producing some cutting-edge work in literature, drama, poetry, analysis of world affairs, psychology, yoga and much more, he has remained largely undiscovered," says Delhi-based Chakraborty, an economic policy expert.

"I knew nothing about him till I was 35 despite driving down Aurobindo Marg daily. There is nothing about him or his contribution to India's freedom struggle, philosophical and spiritual traditions in our school books or curricula. I am glad that in his 150th birth anniversary, the Government of India is taking Sri

An important figure in India's political history, philosophical traditions and spiritual wisdom, his teachings are still relevant



From a revolutionary to a philosopher, Sri Aurobindo's life is a fascinating study from revolution to evolution. PHOTO COURTESY: SRI AUROBINDO KSHRAM TRUST

Aurobindo seriously."

The Central government last year formed a 53-member committee to commemorate his 150th birth anniversary.

Unlike Chakraborty, Devdip Ganguli has 'known' Sri Aurobindo all his life, growing up with his ideas and ideals. Joining the Sri Aurobindo International Centre of Education, Pondicherry, at eight years of age, he is now a faculty member there. "His teachings are timeless and remain relevant across ages. To move towards the future, he believed that India must embrace its cultural and spiritual heritage without being stuck to forms and ideas of

the past, such as our social structure or the caste system, that have no meaning in the modern context. His vision of a universal truth shunned any narrowness of thought or ideology," adds Ganguli, who has co-authored *Reading Sri Aurobindo*.

"We usually think of Sri Aurobindo purely as a philosopher or saint, as he has written about spirituality, but that's just one part of him," says Thiruthankar Chakraborty, an assistant professor at the School of Humanities and Social Sciences, IIT-Mandi.

"He is a multifaceted personality who can be read as a yogi, philosopher, freedom

fighter, spiritual guide. His writings have often been misconstrued as difficult but it depends on your approach to his works. As a student of literature, what really draws me is his literary output — poems, short stories, plays and, of course, his epic poem *Savitri*, that's easily comparable to Greek classics of Homer or works of Milton or Shakespeare," adds Chakraborty, "practically brought up on Sri Aurobindo's ideas and his philosophy" since his kindergarten days in Ashram school at Auroville, Pondicherry.

Chakraborty compares Sri Aurobindo's works to open source software. "Whether you are a *haram* yogi or a devotee of Bhak-

ti yoga, his work on the Bhagavad Gita, *Upanishads*, *Purnana*, *Mahabharata*, *Ramayana*, integral yoga (as his approach to yoga is called) and education, world affairs... one can approach Sri Aurobindo through multiple avenues. With 36 volumes of work, there would be a volume that appeals to everyone."

Architect Jitesh Malik agrees with him and the legion of other Aurobindo followers. "I discovered Sri Aurobindo in 1994 while designing a school. When I read about his concept of integral education, I realised what is missing from our normal education system. It does not realise our full mental abilities."

Ganguli, a product of the integral education system, endorses Malik's views. "The basic principal of this system is education of the entire being — development of complete personality that includes the body, mind, emotions, thoughts."

From a revolutionary to a philosopher, Sri Aurobindo's life is a fascinating study from revolution to evolution. Suraj Kumar's film, *Sri Aurobindo: The Beginning of a Spiritual Journey*, focuses on this turning point. Imprisoned in Presidency Jail, Alipore, Calcutta, in 1908 as an undertrial in a blast case, the film traces Sri Aurobindo's jail experience and how it transformed him. "People hardly know about Sri Aurobindo's life before he came to Pondicherry. The film captures his transformation from a revolutionary to a philosopher."

Sri Aurobindo passed away in 1950, leaving behind a rich legacy. His teachings remain relevant for a troubled humanity in search of inner peace.

T. S. S.

Philosophy with timeless relevance

Tagore's philosophy on education marks the difference between 'learning' and 'education'; it needs to be applied to modern education where creativity is eroding fast



SANDIP BANERJEE

If education has to do anything with improvement of inventiveness of the mind, then it has to uphold the spirit of investigative learning. Strangely, Tagore realised the importance of such learning hundred years back

My recent experience while visiting a renowned school in Kolkata prompts me to believe that the pandemic has started rewriting the grammar of education. It was not so easy for someone like me to accept what many students opined about lone emphasis on examination-oriented learning. Covid has changed our outlook towards so many things. Education is no exception. Importantly, we are now considering learning and education as the same. More than anything else, Covid has established a virtual mode of learning whereby reading textbooks is gradually becoming a lost art. Selective studies over electronic devices is the sing-song of the day. Our traditional holistic approach towards education seems to have got a big jolt in the present tide of learning methods. Naturally, a question pertaining to the relevance of great educators like Tagore springs in our mind. It is no surprise that change is the only constant. Similarly, if we adhere to Bob Dylan's words, "the times are changing", then there is a considerable difference between Tagore's time and our present living. Yet, there are some fundamentals of education which are time-tested. It is in the light of those fundamentals that we should evaluate Tagore's ideas on education in the context of modernity. While doing so, let us also explore whether the recent trends of change are essentially beneficial or not; whether they really serve the cause of education or whether they are mere ejaculations of a sudden psycho-social reaction that seeks easier but incomplete modes of learning.

Rabindranath Tagore believed that the educational process should be one of self-discovery and free creation. Now even after 80 years of his death we cannot brush



Rabindranath Tagore, the great humanist, conveyed the message of humanity in his educational philosophy

aside the importance of what Tagore opined. Without a sense of creativity, any educational system is bound to produce blinded and blocked individuals who would neither imagine nor analyse anything. Tagore's ideas about school education consider school to be an integral part of society where there would not just be rote-learning. Students should be encouraged to unfold the wings of their thoughts, based on individuality and originality. In his famous poem 'Sonnet to the pupils of the Hindu College', Derozio writes, "Expanding the petals of young flowers / I watch the gentle opening of your minds". These lines in one way highlight the impact of education to open the corridor of human thoughts. This is what Tagore wanted wherein he sought education to loosen the intellectual energies and powers. By such education, research and development are certain to improve. Today when we have developed our means of learning, we should direct the path of learning to attain the end of new discoveries. Education in the modern context has become largely informative. Access to information has become abundantly easy. However, there is

another side of the story. Due to almost effortless availability of academic resource materials from digital devices, many learners have developed an uncanny habit of not exploring the details of the subjects. Previously, a lot of effort was required to decipher the meanings of the contents. Individuals had to do it by themselves, mostly with the help of the teachers. This enabled them to have a deep insight into the subject matter. If education has to do anything with improvement of inventiveness of the mind, then it has to uphold the spirit of investigative learning. Strangely, Tagore realised the importance of such learning a hundred years back.

There is a very popular concept which is followed in many schools today. It is the concept known as 'Happy Schools' which fosters a kind of willing pleasure in the child's mind to learn his subject. Classrooms are painted with colorful pictures; books are designed with an artistic touch. All these intend to make the child happy. Tagore was not unaware of it. He understood the child psyche much before the term got a popular connotation. He felt that education should be

imparted to a child in a joyful manner where children should be beyond the rigidity of stricture. Psychological basis of education propagates the process of learning to soothe the understanding of the learners. It is not just what you learn but also how you learn. This was also Tagore's concern. He wanted children to learn within the natural environment where students could develop their creativity amidst nature. In our modern kindergarten schools, walls of the classrooms are decorated with the images of natural objects so that the children could co-relate their studies with the outer world. Tagore, much before, took the natural path instead of creating an image of an image. His idea of making mother tongue as medium of instruction is also an acknowledged view worldwide.

Educators all over the world are highly apprehensive about the debilitating effect of the digital medium as a source of learning. Their argument derives strength when we see how a substantial percentage of modern learners, leaning heavily on Facebook and YouTube for academic purpose, are left without accomplishment of learning skills. There is absolutely nothing wrong in utilising these tools. They can be supplements to the learning process. However, over-dependence on these applications can be equally harmful. Not only is one gradually synchronised towards suggestive reading, one also finds his creativity and free imagination, so vital to innovation, stunted. Tagore had an answer to these maladies. He defined education as being one with life to give us real freedom. Freedom of thought and expression are essential components of Western education; our own cultural legacy spoke about it even before the Western world. Modern education boasts of

free availability of study materials but, more importantly, we need freedom from biased learning; from the ill-effects of mental bondage. Modern vocational excellence demands command over subject and the ability to apply the concerned knowledge in the concerned professional arena. In Tagore we find an educator whose philosophy of education rested on creative skills which are not merely bookish. The National Education Plan recommends inter-disciplinary studies and various co-curricular activities. Tagore long back attached importance to fine arts in curriculum. Much before we realized the importance of co-curricular activities, Tagore popularised dance, music and drama as part of academic content. Above all, it is time for us to imbibe the spirit of morality that Tagore voiced for. In this post-modern world, we are baffled with the riddles of immoral temptations. Only proper education based on enlightenment of the mind can help us. We have moved from IQ to EQ to SQ — only to pronounce the necessity of human understanding in education and vocation. Rabindranath Tagore, the great humanist, conveyed the message of humanity in his educational philosophy. This is indeed the need of the hour — for more than cleverness we need kindness and gentleness. To him, education should make us feel along with making us think; it should provide knowledge to ensure its applications. Then only the society in itself can be healthier. Education system that produces immoral professionals is not welcome at any age. Tagore stands tall in spreading his dictum of education linked with social, economic and spiritual domain of life so that we not just learn, but also educate ourselves.

The writer is an educator from Kolkata. Views expressed are personal

8/19/22

CUET Defective

*Students are owed a proper audit of NTA glitches.
What happened this time mustn't be repeated*

Yesterday NTA said the CUET exam will now go on till August 28. For too many Class XII students, this year feels like a never-ending nightmare of exam dates. In CUET's second phase, major technical glitches have been the main culprit. There have been server issues, snags in downloading papers and security protocol failures, and late on Friday NTA cancelled exams at around 10% of the centres. It attributed this to "administrative/logistics/technical" reasons. But its own under-preparation is the main worry point.



Unlike, say, JEE-Main that has only two papers, CUET tests 54,000 unique subject combinations. Naturally, the latter demands a more complex IT architecture and sturdier infra. The question now is whether centres that got delisted in the middle of the exam cycle – setting up affected students for fresh rounds of uncertainty – should have been deemed fit in the first place. NTA should invest in system upgrades at, say, the Kendriya Vidyalaya network. This will also

have wider positive multipliers. There are plans to hold CUET twice from the next academic year. The spillover effects of its glitches and delays on the entire higher education cycle will be even worse, unless an earnest audit of what went wrong this time is done. Education ministry must ensure accountability at NTA.

What's worse for students is that they get their admit cards really close to exam dates, often leaving them scrambling to make difficult travel arrangements. The toll of this security precaution has proved very high. So, alternatives must be found. Put students' peace of mind first. *TOI/8/22*

Learning machines

SUKANTA CHAUDHURI

The economic downturn caused by Covid-19 was the making of one class of business: the edutech industry. The closedown of schools created a need to teach students remotely. The electronic mode was the only possible means. But the way it was adopted prompts deep misgivings.

I am actively involved with computer applications in teaching and research. The promise held out by digital learning excites me. Its progress in India fills me with alarm.

The dismal backdrop to my discussion is the digital divide. We are content that for the poor, a single smartphone should be considered a sufficient educational tool for all students in a household. Even that, a parliamentary committee found last year, eluded 77 per cent of the nation's children.

But today, let us think about the fortunate ones with laptops and smartphones for their sole use. When the pandemic broke, their schools soon switched to online classes. But online teaching implies more than a Zoom meeting. It calls for audio-visual techniques for which most schools had neither expertise nor infrastructure. Plain vanilla classroom teaching falters without a classroom.

That is where edutech companies saw their chance. They applied digital technology expertly and intensively to the curricular content. Their instructors exuded a compelling onscreen presence, as conventional teachers had never learnt to do. The result was a package that captivated both children and parents footing the bill. Both parties were connoisseurs of onscreen content: the children from computer games, the parents from infotainment channels. The superstition is rife anyway that anything emerging from a computer is a superior option. In two short years, hitherto uncontested schooling methods acquired the negative label of 'offline teaching'.

But might not the new technology truly be superior? The digital revolution has transformed our lives. In intellectual and cultural matters, however, it has generally modified older practices instead of dislodging them altogether. More books are printed today than ever before, alongside the electronic text and the internet. Live performances flourish despite staggering advances in audio-visual



recording. The equation between ageless human practice and digital innovation is subtle and complex. With education, the pandemic drastically short-circuited this adjustment.

Throughout history, teaching has implied an interaction between teacher and student. A child learns letters and numbers under a teacher's care among a group of peers. Every primary-school teacher I have asked agrees that small children cannot be taught online to read, write and count. If some learn to do so, it is because an adult is present to guide the process.

With older children, the challenge is subtler. Edutech planners will tell you that they allow for individual attention and interaction. Learners can follow their own pace, assess themselves by self-testing, and even ask questions. The interaction is largely through pre-coded exercises and bots, but the best (and costliest) courses find slots for human mentors. Yet all these features are worked into a pre-set, one-way system: an extended IT program, 'remote' in every sense.

To be sure, there are physical schools so ill-run that online instruction is a better alternative. But even a halfway decent institution offers the imperative human exchange. A lecturer in a classroom subconsciously attunes herself to the faces in front of her. Students' queries cover a range that artificial intelligence cannot tackle — above all because it ignores individual psychology, the personal factors

impacting a student's development. A packaged online program can never overstep its boundaries, never warm to a bold question or an out-of-the-box suggestion. At most, it fosters a competent mediocrity. Hence *the best students benefit the least from online courses*, which stunt their potential.

Edutech is the white flour and refined sugar of learning. To consume it is better than to starve, but it is no substitute for a wholesome home diet, even if indifferently cooked. (That is no excuse not to improve the cooking.) To vary the image, the stuff of digital learning is both literally and metaphorically behind a screen: you see it, but you can't reach through and grasp it.

Such charges are customarily made against private coaching. Coaching centres are reviled on principle but rife in practice. Edutech providers profess the same adjunct role. But given their reach, glamour and opulence, they play a much more visible and increasingly central role in India's education system.

This is because they blend with the current ecology of public services, cutting down State forests and planting corporate groves. Online teaching is vastly cheaper to provide: it does not need a standing army of teachers. The high demand is fanned by both commercial and official publicity. The Union government has perfected a new rhetoric extolling online teaching, never mind the digital divide. PM eVidya, the grandest of many schemes,


aims to provide online education to every student in India. This may or may not be the same as the 'digital university' promised in this year's budget, while actual universities languish for want of funds.

Education is following the path of our healthcare services, with an endlessly expanding role for the private sector. The economics drives the technology. State agencies have their own e-learning platforms: Diksha, ePathshala and Swayam, among others. Yet our rulers are warming more and more to private operators. Universities can outsource 40 per cent of course content for online degrees (themselves a recent innovation) and engage edutech companies to 'assist' even with the rest. There is even talk of such companies carrying out evaluation.

In today's India, practices once thought harmful or illicit are routinely legitimised and then made standard. Not so long ago, we deplored the possibility of commercial coaching empires influencing exam results and curricula. This might soon become normative and organic to the system.

No academically respectable country has surrendered its education sector to profit-seeking interests in this way. When all is said, Indian education has an honourable place in the world's eyes. We denigrate our public education system, but its alumni win success and acclaim everywhere. Let us not sell out on that legacy. Tel/8/hc

Tips, tricks for Indian students visiting US



A complete guide, from visa requirements to living options and ways to make money while studying in US, students can benefit from these tips

JEMIMA VAZ

The decision to study abroad can be a tough one. There are so many variables and questions in everyone's mind – from how do I get there and what's the visa process, all the way to managing finances and actually living in a different country – the dilemma seems overwhelming.

As someone who's been through the process herself, I understand the difficulties and have experienced them firsthand. So, here's my guide for all the students planning to study abroad and who are in the middle of all the madness it brings.

Scoring your visa appointment

Probably the hardest and most crucial part of the process for an international student is trying to get your visa. First, it's necessary to understand what kind of visa you would be coming on. For most students, it's the F-1 visa, while some might come on a J-1 visa (if you're coming with a spouse or partner, or as an exchange student).

In both cases, it's important to get on your process as soon as possible.

Fill out all your forms, get your I-20 from your university, and complete the SEVIS and DS-160 forms. In case you're a bit late to the game, there's no need to panic. At the moment, the visa appointment process takes longer than usual due to the after-effects of the Covid-19 pandemic. The best hack to get an earlier visa appointment is to do what you always do, stay up really late.

In case you feel like your appointment is cutting it too close to when you're supposed to leave, the best window to get an earlier appointment is to check between 3 am and 5 am or 2 pm to 4 pm. I don't know the exact science behind it, but what I do know is that it works. Once you've got your appointment, it's all easy from there. Just make sure you have your documents set up and offer quick and clear responses wherever possible and you'll be on your way!

Finding a place to live

Looking for a roommate and a good place to live in a different city, especially when you're not there is always a challenge. But fear not, social media is your lifesaver. The

first thing you have to do is find a Facebook group related to your university and check for housing options. Most universities offer housing services, but if you're looking for another option, that's your best bet. Do your research, find someone who has been to the university before (LinkedIn is your best friend here) and drop them a message to understand what your best options are. Try to find something close to the university so you feel comfortable walking and the commute isn't hard.

Packing your bags

My first thought when I was packing was "How will I fit my whole life into two suitcases, that sounds nuts". But what's important to remember is that everything we get back home, you get here (tell your mom that before she tries to send a pressure cooker to the US with you). Make sure you have your essentials which are only clothes and your documents. Everything else is something you can find here. Most cities in the US have Indian grocery stores, Amazon has all the spices you need, and companies like Instacart, DesiBasket, and Weee!

offer you all the stuff you miss from back home.

What to do in your first week here

Once you've made it, you just have to breathe. Everything else will fall into place. Get on all your documentation at your university, which will include your passport verification, filling up your I-94, and any other health-related compliances you might have to complete. The next and most important thing is to get a phone line.

Most universities have deals with service providers that can help you ease your transition here. Your best bet is also to look for a relative or a friend and connect with their line, so it helps you reduce the cost of your monthly phone bill (data is cheap only in India, thank you lol). After that, all you need to do is make sure you take everything in and enjoy where you are.

Long-term budgeting and planning

Finally, if you're looking for ways to save money or to make some while you are here, in your first two semesters you will have to

look for a job on campus. There are many to go around and it's important to network and speak to people to find what works for you. Your university will most likely also have a job portal that can help you find a fit for what you want to do. Be careful to not exceed your weekly hours though, since an F-1 visa has a cap of 20 hours a week of working as an international student. Once you've finished two semesters on campus, you can activate your CPT (curriculum practical training), and find an internship or job that you can work on off-campus. (But make sure that your CPT does not exceed 11 months, as it digs into your post-graduation work permit).

For anyone that's looking to study abroad and has doubts or fears, remember that every new experience offers something great and you have to take the leap to come and do what you want to. And remember, you're not alone, there are thousands of other people in the same boat as you that are happy to help.

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What children know vs what they should know is crucial

KADAMBARI RANA

'Keept marching forward' seems to be the mantra of academic institutions across the globe. While it is important to stay optimistic and keep setting new pedagogical goals it is equally important to ensure students re-visit the academic milestones of the past.

Unfinished learning is that milestone; academic, emotional, social, physical, or intellectual that the student has skipped or lost accomplishing either partially or completely. For the post pandemic education world 'Unfinished Learning' should be the focus of the hour!

Understanding Unfinished Learning:

Where 'learning' is the process of knowledge and skills acquisition through teaching, study, experience, and experimentation, 'unfinished learning' is the student's untapped potential for this learning. Factors causing unfinished learning are vast and wide, lack of access to education, school closures, depression, anxiety, loss of family members, sickness, pandemics, epidemics, family crisis, national crisis, isolation from social interactions and so on.

Such factors cause serious disruptions in the learning process resulting in exaggeration of previously existing learning gaps as well as triggering a cohort of new set of unfinished learning.

Academic institutions need to focus on developing effective strategies to bridge the unfinished learning gaps. Since physical and mental environment, in which children operate, is of paramount importance to their intellectual, emotional, and social development therefore



at the forefront of such strategies should be creation of a conducive environment. One, which is child centric, sensitive and loving!

If schools are able to make students feel cared for then efforts for bridging learning gaps will reap greater results. Then come strategies pertaining to school come back, recovery of lost academic rigour and interest, identifying and bridging learning gaps. Last but not the least, restructuring the academic goals considering the new world order and aspirations.

Understanding Student Needs:

When schools draft the learning trajectory without considering the learning needs of its learners then the success results of such teaching exercises are dreary. Academic institutions, globally, need to appreciate that the needs of the students are not limited to academic work nor is the impact on students' well-being necessarily stemming out of the academic domain.

The needs of the learner can be broken down into physiological needs, safety needs, need for love and belonging, need for socialization, need for intellectual stimulation, need to discover, freedom to explore and make errors, need to participate, and communicate and even spiritual needs.

One of the biggest explanations for poor success rates in teaching can be attributed to parents and educators' own lack of understanding of the needs of a child. Lack of understanding with regards to age-appropriate behaviour and absence of consideration towards internal and external turbulence in the student's life can severely impact the learning graph.

The Lingering Effects of Unfinished Learning: McKinsey & Company report highlights:

To assess school learning through the pandemic McKinsey & Company analysed the results of more than 1.5 million elementary

school students and 16,370 parents across 40 US states. They compared performance in spring of 2021 to similar performance prior to the pandemic and found that, "students were about 10 points behind in maths and 9 points behind in reading."

In terms of months of learning we found that this cohort of students was five months behind in maths and four months behind in reading as compared to what is expected in one grade level." Moreover, the report suggests that unfinished learning was observed across all grades, in fact first and second graders were two or more levels behind grade specific expectations. In addition to this, children of historically disadvantaged groups and low-income groups were impacted more severely than the average.

It is important that educational institutions understand that the damage inflicted by the pandemic was far and beyond academics. The report stated, "roughly 80 per cent

of the parent population studied expressed concerns about their child's mental health, child's social and emotional health since the pandemic."

Prioritizing Formative Assessments and Social Interactions:

Formative assessment is assessment for learning. This is conducted with a primary intention to support the student plug in learning gaps rather than cruelly testing them against textual content. Here, the teacher is focussed on investigating the students core takeaways, common errors and examining the efficacy of the teaching strategy. This is also referred to as diagnostic assessment.

Prolonged school closures have significant implications for learning, assessments, and credentials. Formative assessment helps examine learning needs of students, both during normal as well as crisis situations. Under the current circumstances it would be ideal for educational institutes to prioritize formative assessment since it provides better solutions for learner progress and unfinished learning.

Some of the ways in which schools can transform their assessment styles are cutting back on length of exam and test papers, giving additional writing time, replacing tests and exams with class presentations, case studies and project work, introducing open book examinations, introducing classroom debates and discussions, community service, cutting back on volume of academic course, focussing on basic concepts rather than advanced knowledge, more activity-based learning and research work.

The writer is an educationist, currently working as documenting her observations on children's play and learning experiences.
54-4 (2/2)

स्टूडेंट्स की तो सोचिए

एनटीए ने कह दिया है कि कॉमन यूनिवर्सिटी एंट्रेंस टेस्ट (सीयूईटी) अब 28 अगस्त तक होंगे। 24 अगस्त से 28 अगस्त तक के इस आखिरी राउंड टेस्ट की व्यवस्था उन स्टूडेंट्स के लिए की गई है, जो पिछले हफ्ते हुई तकनीकी गड़बड़ियों और अन्य कारणों से परीक्षाएं रद्द किए जाने से प्रभावित हुए हैं। देखा जाए तो 12वीं करने वाले बहुत से स्टूडेंट्स के लिए यह साल तनावों और अनिश्चितताओं का अंतहीन सिलसिला साबित हो रहा है।



सीयूईटी में गड़बड़ियां

महामारी की अनिश्चितताओं से पार पाने के बाद 12वीं की परीक्षा से गुजरे नहीं कि सीयूईटी की एक नई परीक्षा सामने आ गई। जब परीक्षा की तारीख आई और एग्जामिनेशन सेंटर पहुंचे, तब भी दिक्कतों ने पीछा नहीं छोड़ा। सर्वर की समस्या रही, पेपर डाउनलोड करने में मुश्किलें आईं और सिक्योरिटी प्रोटोकॉल तो आफत बने ही हुए थे। इन सबके बाद करीब 10 फीसदी सेंटरों की

परीक्षाएं रद्द कर दी गईं। एनटीए ने इसका कारण तकनीकी गड़बड़ियों को बताया है। यूजीसी के चेयरमैन कह रहे हैं कि जानबूझकर गड़बड़ियां किए जाने की भी सूचनाएं मिली हैं और इन सबके बीच स्टूडेंट्स के हितों को केंद्र में रखकर ही यह फैसला किया गया है। सच जो भी हो, इस बात से इनकार नहीं किया जा सकता कि एनटीए की ओर से इन परीक्षाओं के लिए जैसी तैयारियों की जरूरत थी, वैसी तैयारियां नहीं की जा सकीं। और, इस तथ्य को नजरअंदाज नहीं किया जा सकता। ध्यान रखना चाहिए कि यह किसी भी अन्य संयुक्त परीक्षाओं जैसा मामला नहीं था। अन्य संयुक्त परीक्षाओं, उदाहरण के लिए जेईई में सिर्फ तीन विषय होते हैं, जबकि सीयूईटी-यूजी में 61 विषयों की परीक्षा 13 भाषाओं में होती है। जाहिर है, इसके लिए कहीं ज्यादा बड़े इन्फ्रास्ट्रक्चर और ज्यादा सक्षम सॉफ्टवेयर सपोर्ट की जरूरत थी। भूल सुधार के रूप में अब स्टूडेंट्स की सहूलियत के लिहाज से कई कदम उठाने की बात कही गई है। उदाहरण के लिए, इस बार एग्जामिनेशन सेंटरों पर क्वेश्चन पेपर जल्दी भिजवा दिए जाएंगे, बैकअप सर्वर तैयार रखा जाएगा और सेंटर के बाहर स्टूडेंट्स-पैरेंट्स की मदद के लिए अतिरिक्त स्टाफ भी रखे जाएंगे। ये सारे कदम अच्छे हैं, लेकिन ये पहले ही उठाए जाने चाहिए थे। ऐसे ही यह सवाल भी पूछा जाएगा कि जिन सेंटरों को परीक्षा के दौरान डीलिट करना पड़ा, क्या उन्हें लिस्ट में शामिल करना ही गलत नहीं था? दिक्कत यह भी है कि सीयूईटी की इन गड़बड़ियों के चलते एडमिशन प्रॉसेस में देर होने वाली है, जिसका असर यूनिवर्सिटीयों के अकादमिक सत्र पर भी पड़ सकता है। बहरहाल, सीयूईटी एक नया प्रयोग है, जिसमें कुछ हद तक गड़बड़ियों को स्वाभाविक मानना होगा। लेकिन इन्हें जल्द से जल्द ठीक करने का दायित्व भी तभी अच्छे से पूरा हो पाएगा, जब इस दौर की गड़बड़ियों की जिम्मेदारी तय की जाए।

सालाना दो करोड़ रोजगार के मौके नहीं बनाए गए तो देश की आर्थिक तरक्की पर बुरा असर पड़ेगा ज्यादा नौजवानों को रोजगार मिले तो बात बने



वरुण खत्री

शिक्षा और रोजगार के क्षेत्र में देश में फिलहाल जो स्थिति है, उसमें एक लाख भर्ती हुए हैं, तो दूसरी लाख भर्ती व्यवस्थागत आवश्यक है। अंध प्रवेश में 1998 में बिल चयन समिती की पेशकश को लागू करने वाले

4,500 उम्मीदवारों को अब जाकर सरकारी नौकरियों में बर्ती शिक्षक नियुक्ति नौकरी को पेशकश की गई है। नौकरी की असल में इन लोगों के 24 बीघाई साल बचकर चले गए। इसे तरह पढ़ने के जग प्रकृत विश्वविद्यालय के कई छात्रों के लिए स्नातक होने का इंतजार छह साल से भी लंबा हो चुका है। पिछले कुछ सालों में विश्व के 17 सरकारी विश्वविद्यालयों में से 56 ने अपने शैक्षणिक सत्र समय पर पूरी नहीं किए। नईदिल, ऐसे छात्र सरकारी नौकरियों के लिए आवेदन करने से घृणित हैं। जर्दिर है, ऐसे विश्वविद्यालय देश में शिक्षा के स्तर को भी फिट हो रहे हैं, बेरोजगारी को भी लंबा रहे हैं।

लेटलसीपी से मुनाफा

इस तरह की दुर्घटना और लेट-लसीपी के बीच लाभ बनने का उपक्रम जारी है। यह कई सारों पर चल रहा है:

- एक, भर्ती परीक्षाओं की तैयारी के लिए करीब पैसे खर्च करने पड़ते हैं। यहपूर्वी घंटों पर भर्ती को तैयारी के लिए 1,000 से 4,000 रुपये से चुकानेवाले की बर्तिका के लिए 1.5 से 2.5 लाख रुपये चुकाने होते हैं।
- दो, भर्ती परीक्षाओं के लिए रजिस्ट्रेशन करने का शुल्क आसमान छू रहा है। जम्मू-काश्मीर राज्य सेवा बोर्ड (एसएसबी) ने केरोजगार युवाओं से मार्च 2016 से सितंबर 2020 के लंबे पर वर्ष

में 77 करोड़ रुपये इकट्ठा किए, जबकि उनके अंतर्गत भी परीक्षाओं और उनको मिलने वाली नौकरियों का इंतजार है।

- तीन, खासियत देखते हैं लगभग 2.41 लाख आवेदनों से आठआठ-एघटौंवेई और जून-दूसरी परीक्षाओं (2019) के लिए 864 करोड़ रुपये इकट्ठा किए।

विलंब के असम-अलग रूप

देखते की नौकरी के इच्छुक उम्मीदवारों के लिए 2019 में 1.3 लाख घंटों के लिए घुस की की अधिपुनन के बाद से इसकी परीक्षा के लिए लंबा इंतजार करना पड़ा। यह एक करोड़ आवेदकों के लिए 1000 दिनों तक घुस आसमान में टकटकी बंध कर देखने जैसा था। विलंबयम है कि देखते की परीक्षाओं में देखते की तुलना में देरी ज्यादा देखी गई है।

इसके साथ जून में विश्ववर्तमान में सेवा भर्ती परीक्षा आयोजित करने में देरी के कारण उम्मीदवारों

जम्मू-काश्मीर राज्य सेवा बोर्ड ने केरोजगारों से मार्च 2016 से सितंबर 2020 के बीच 77 करोड़ रु इकट्ठा किए। देखते ने 2.41 लाख आवेदनों से 864 करोड़ रुपये इकट्ठा किए

ने चुनावन के बाहर विशेष प्रदर्शन किया। 2000 लोगों के लिए विद्योने शारीरिक और चिकित्सक परीक्षा पास कर ले की, यह एक लंबा और खराब इंतजार था। इनमें से कई ने अब 23 वर्ष से अधिक के हैं और उनके लिए नौकरी का पालन प्रयास हो अतिम सक्षि हो रहा है।
कर्मचारी में एक असल स्थिति है। यहां राज्य



सरकार दो साल के अंतराल के बाद फिर से 260,000 रिक्तियों के लिए भर्ती करना चाह रही थी। लेकिन भर्ती प्रक्रिया में देरी हो रही है क्योंकि सरकार प्रशासनिक सुधार आयोग-2 (एआरसी-2) की रिपोर्ट का इंतजार कर रही है। यह रिपोर्ट कुछ नौकरियों को समाप्त करने का कारण भी बन सकती है। ऐसे में सरकार है कि नौकरी के लिए दिन-रात मेहनत कर रहे लोगों को अधिक और बिलंब सब रखना होगा।

सुधार के कदम

इन क्षेत्र में सुधार की दिशा में कुछ आवश्यक कदम आसने से उताव्र न सकते हैं।
● युवाओं को रोजगार देने के नाम पर लाभ बनाने की योजनाएं बंद करनी होंगी। इसके लिए वे

- नौकरियों को अधिनिर्धारित करने की आवश्यकता है कि परीक्षा के बाद और उम्मीदवार के स्वयं के बीच भी पूरी बर्तिका हो। इस लंबा को 50 दिनों तक रखना बेकार होगा। देश न होने पर उम्मीदवार को घास और तहलने के खर्च का भुगतान होना चाहिए।
- इसके साथ अंतर्धान परीक्षाएं राष्ट्रीय परीक्षा एग्जेंट (एनटीई) द्वारा आयोजित की जानी चाहिए। इसके तहत सभी परीक्षा केन्द्रों पर बहोबेरोटिक उपरिन्की, करीब रूप, फंडे, सभुधित प्रकाश व्यवस्था जैसी सभी सुविधाएँ सक्षुधित होने चाहिए।
- एक ही दिन कई परीक्षा होने को परेशानी दूर करने के लिए लंबे प्रमुख शैक्षणिक संस्थानों और शैक्षणिक उपक्रमों को भर्ती परीक्षाओं का एक

- सुक्षुधित केन्द्र प्रवर्धित किया जाना चाहिए।
- सरकारी भर्ती के लिए केन्द्र व राज्य सरकार के तहत प्रत्येक मंत्रालय को विभिन्न विषयों से अनुभवी कर्मचारी चाहिए कि वे लंबा बर्तिका से लंबा दिन के बाद अपने यहां नौकरी रिक्तियों को सुबे तैयार करे और उसे जग करार।
- विषयों को आदर्श रूप से ऐसे सुबे के अनुभवी के हलके पर के बीदा वैद्युत शिक्षणों को अनुभवी सुबे का विधानन करार चाहिए।
- अनुभवी सुबे के प्रकाशन में विलंब होने पर कसूरदार विषयों को अपने प्रशासनिक खर्चों में कटौती करनी चाहिए और बिना भी सुला में परीक्षा रह देने को सुला में आवेदकों को खराब व अनुप चान्द में घृणित मिलनी चाहिए।

डेमोग्राफिक डिविडेड

भारत के 15 साल से अधिक आयु के एक अरब लोगों में से मात्र 43 से 45 लाख लोग ही अल्पकाल के लैर पर उपलब्ध हैं, बिनमें 30 से 40 लाख लोग नौकरी पाने में असमर्थ हैं। इन सबके बीच जून 2022 में भारत की रोजगार दर 35.8 फीसदी रही। ऐसे में भारत को रखतन दो करोड़ रोजगार सृजित करने की जरूरत है, वैसे यह भी दरकार से कम हो होगा। इस तरह के प्रवास समय से नहीं करने से हम अपने डेमोग्राफिक डिविडेड (जनसांख्यिकीय लभंश) के बड़े हिस्से को बर्बाद होने के लिए छोड़ देंगे। वैश्वीकरण/सरकारी योजनाओं में परीक्षाओं और भर्ती के घुसे पर हमें शकते बेरोजगारी पर एक राष्ट्रीय चार्ज की पालन की तरफ बढना चाहिए। यह सुनिश्चित करने के लिए कि पालन का डेमोग्राफिक डिविडेड एक जनसांख्यिकीय आयुध न सक्षि हो, हमें रोजगार सुधन और श्रम बजार के लिए युवाओं की कुशलता की चुनौती पर खरा उतरना होगा। जर्दिर है, इसके लिए सिर्फ बचतबन्दी काफी नहीं।

Ranking of institutions for innovation

■ Dr Sadiq Hussain

'Innovation' is the buzzword that has inspired the young minds across the globe in the 21st century. The conversion of ideas into novel or enhanced services, processes or products may be dubbed as innovation in simple terms. The scientific knowledge is transformed into services and products and hence innovation makes contributions in social development and economic growth. According to Marc Chason of Motorola Labs, "The actions required to create new ideas, processes or products which when implemented lead to positive effective change. While invention requires the creation of new ideas, processes or products, innovation moves one step further and requires implementation of the inventive act. Innovation also implies a value system which seeks to derive a positive outcome from the inventive act. For example, actions which lead to a negative performance metric would not be considered innovative, even if they met the requirements of novelty and enabling actions." To unleash the creative potential of every Indian, the Prime Minister of India had declared the decade 2010-20 as the 'Decade of Innovation'. India has been on a rising trajectory over the past several years in the Global Innovation Index (GII), going up from a rank of 81 in 2015 to 46 in 2021. A

sustainable innovation ecosystem is the need-of-the-hour to improve the ranking of India. The youths of the country, especially the students in higher educational institutions (HEIs) need nourishment to play a vital role to turn India into a global innovation hub. So, HEIs need a comprehensive roadmap to convert research into innovation. The ecosystem will nurture, encourage and inspire the young minds by exposing them to novel ideas and processes engaging these students in innovative activities in their study years.

The Atal Ranking of Institutions on Innovation Achievements (ARIIA) is an initiative of the Ministry of Education (MoE), Govt of India to systematically rank all HEIs and universities in India on indicators related to "Innovation and Entrepreneurship Development" among teachers and students. Seven parameters are set with certain weightage for assessment of start-up ecosystem and innovation in HEIs. Twenty marks each are allocated to three categories: 1) awareness activities for promoting idea generation and innovation, 2) budget, expenses to support and revenue generated and 3) promotion and supporting entrepreneurship development. Ten marks each are allocated to two-categories: 1) infrastructure and facilities to support start-ups and innovations and 2) innovative learning methods and

courses. Intellectual property (IP) generation, technology transfer and commercialisation is awarded 14 marks. Six marks are assigned for innovations in governance of the institution. Altogether 100 marks are allotted for the seven parameters. The methodology devised to compute ARIIA metrics takes into account all prime indicators applied globally to rank educational institutions for innovation. Moreover, ARIIA considers India-specific parameters as well by measuring the status of the institutions as well as their current scenario. An attempt is made to identify the required data to measure the performance score under each parameter to ensure transparency in the ranking system. The focus is to gather easily verifiable data that can be provided by the institutions easily or to obtain it easily from third party sources.

ARIIA classifies the participating institutions under two classes i.e. non-technical HEI and technical HEI. Each class is categorised under two broad categories - privately/self-financed institutions and publicly funded institutions. Additionally, special category for HEI exclusively for women's education is part of the ranking. There is a difference between weightage allocation for non-technical HEI and technical HEI classes. The marks allocated for the 'Developing an innovative and entrepreneurial mindset through a series of activities' parameter are

4 for technical HEIs and 8 for non-technical HEIs. In the same way, for the 'Teaching and learning: academic programmes related to innovation & entrepreneurship and IPR offered by the HEI' parameter, the technical HEI is allocated 6 marks whereas for the non-technical HEI it is 10 marks. All recognised higher educational institutions of India are eligible to participate in the ARIIA rankings.


If one goes deeper into these parameters, they will find some sub-heads. If you explore the 'Intellectual Property (IP), Generation and Commercialisation' parameter, you will find six sub-heads: 1) number of research papers published (student/faculty) with keywords innovation and entrepreneurship in Scopus, 2) number of copyrights/designs applied, 3) number of patents filed and published, 4) number of patents granted, 5) number of patents held by pre-incubated innovations/incubated start-ups and 6) number of IPs commercialised/technology transferred during that particular period.

The chief patron of the ARIIA team is Dharmendra Pradhan, Minister, MoE. Patrons include Rajkumar Ranjan Singh, Minister of State, MoE; Annapurna Devi, Minister of State, MoE; Dr Subhas Sarkar, Minister of State, MoE; K Sanjay Murthy, Secretary (HEI), MoE and Prof Anil D Sahastrabudhe, Chairman, AICTE. There are also the ARIIA Framework Development Committee and ARIIA Implementation Team

for devising the roadmap and monitoring the progress.

After completion of registration in the ARIIA portal (www.aria.gov.in), the HEI needs to complete the pre-qualifier section before getting into data submission in the data submission portal section. The detailed format for both data collection and guidelines for data submission procedure is made available in the login page for download.

Data submission for ARIIA 2022 started on June 17 and will close on August 31 and registration for it will be closed on August 31. The result of ARIIA 2021 was announced on December 29, 2021. Punjab University topped the ranking in the University & Deemed to be University (Govt & Govt Aided) (Technical) category. Dibrugarh University registered its place in Band Promising in the same category. It is worth mentioning that 19 patents were granted to innovators of Dibrugarh University (2021-2022).

High quality entrepreneurship, innovation and research are encouraged by the ARIIA ranking to boost ecosystem and re-orient the mindset of faculties and students. Quality of innovations is emphasised by ARIIA rather than quantity of innovations. It will also have to take a close look at the impact generated by these innovations internationally and nationally. ARIIA will lead the HEIs to be globally ready for competition and in the forefront of innovation. 

Building a career in data sciences

Dr. Sanjay Goel

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Data plays a very important role for understanding our world, physical, biological, social, economic as well as ourselves. Availability of data usually reduces uncertainty and ambiguity in our understanding. Our dependence on data for clearer understanding and decision making increased with the scientific as well as industrial revolutions. With increased trust on data, seven hundred years ago, the world's data growth curve started becoming more vertical and five hundred years ago modern statistics, mostly related to population data, started to inform the policy and even reform the society. Nearly seven years ago, computers started to transform our ability to encode, store, analyse and later even share data. Around thirty years ago, internet started to contribute to create a flood of data. Broadband networks, mobile devices, streaming media, and IoT on one hand, and trends like urbanization, e-governance, e-commerce, online learning, e-health, open government data, etc. on the other, are now rapidly transforming this flood into an overwhelming deluge.

In 2002, we started entering into a nanobyte age when world's total digital data exceeded one zettabyte, i.e., a trillion gigabyte. As per some estimates, the global data volume will reach 160 zettabytes by 2025, 572 zetta byte by 2030, and it may even go up to 3,00,000 zetta byte by 2050, with 90% data being real-time. Data has become more important than ever across industries today, leading to a growing demand for data science professionals who are

playing a pivotal role in helping businesses and organizations generate actionable insights. Converting this voluminous data will require a great deal of effort by data scientists, however, technologies like Machine Learning and predictive analytics are making the process faster as well as more efficient. While dealing with such huge quantities of data will be a challenge, it will create a lot of opportunities and jobs as well.

What is data science?

In simple terms, data science encompasses preparing data for analysis, including cleansing, aggregating, and manipulating the data to perform advanced data analysis.

It is an interdisciplinary field that uses scientific methods, processes, algorithms, and systems to extract knowledge and insights from structured as well as unstructured data. According to a 2021 ACM report on Data Science, it is the field that brings together domain data, computer science, and the statistical tools for interrogating the data and extracting useful information. Domains create and provide the structured as well as unstructured data; Statistics and Mathematics provide tools for analysis, modeling, and inference; and Computer Science contributes algorithms and technologies for data access, management, protection, as well as effective processing in modern computer architectures.

What do data scientists do?

Data scientists have become necessary assets and are present in almost all organizations nowadays. These data-driven professionals identify problems or objectives that can be addressed



Data science is crucial at a time when India aims to become a global hub for AI

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through data analysis by identifying relationships and trends that help in developing solutions to business, engineering, governance, or scientific problems using mathematical theories and techniques and recommended data-driven solutions to key stakeholders.

This filtered information can be used to answer questions and drive strategy in an organization or business. In this process, they clean and process large sets of data, apply feature selection algorithms, compare, test, validate, and reformulate models, create visualizations, and write new programs or applications to conduct analyses. They may even have to design instruments to collect data.

Career prospects in data science

According to Michael Page's July 2021 report, the rise of data science needs will create 1.3

million jobs opening by 2026 globally.

According to Analytics India Magazine, in 2022, India contributed 11.6% of the total open job globally in data science and analytics. With a large pool of STEM graduates, there is huge opportunity for India to emerge as a world leader in this field. Analytics India Magazine's June 2022 report estimates that overall Analytics industry will exceed US\$ 200 billion by 2027 and Indian companies are focusing on increasing the share of fresh recruits to increase their share in this growth.

Focus on learning the right skills

In order to serve in the areas of data analytics, data science, or business analytics in business, consultancy, industry, government, healthcare, education, research, etc., students should

basically develop the abilities to:

1. Identify, extract, and pull together available and pertinent heterogeneous data and use appropriate computational principles, platforms and technologies to discover new relationships and deliver insights into research problem and/or organizational processes.

2. conceive, design, implement, and manage data analytics, data management and information systems, services, and

DATA SCIENCE USES PROCESSES, ALGORITHMS, AND SYSTEMS TO EXTRACT KNOWLEDGE AND INSIGHTS TO CREATE VALUE

processes by using principles of computer science, data management, machine learning, computational statistics, software engineering, and state of the art platforms, components and tools.

A good UG education in computer science, engineering, statistics, or mathematics prepares the students with the fundamental knowledge and skills required to develop above abilities through further education or training. Many universities are now offering MTech, MSc, MBA or PG Diploma programs in Data Science, Data Analytics, or Business Analytics. A good technology focused master's program in data science will normally include courses like computational statistics, data mining, machine learning, deep learning, big data, cloud computing, web analytics, large graph analytics, natural language processing, computer vision, software engineering, etc.

Depending upon their strengths in a few application domains, some programs may also include a few domains specific analytics courses like financial analytics, e-commerce analytics, manufacturing analytics, sales and marketing analytics, transport analytics, tourism analytics, HR analytics, health analytics, agriculture analytics, etc. Some universities are also offering UG programs in these areas. Many online programs are also available but online programs usually work only for the highly self-motivated students. However, online courses can surely be a great supplement to regular university programs. Some universities have already partnered with online platforms like Coursera or edX to strengthen their students learning.

Students should focus on building their knowledge and skills in statistics, algebra, calculus, programming, machine learning, big data, cloud computing, and software engineering. They should learn computing platforms, technologies and tools like Linux, Python, R, Java, SQL, Tableau, TensorFlow, Apache Spark, Hadoop, Docker, etc. They must sharpen their critical thinking to ask interesting questions and understand issues and situations from multiple perspectives. They need to develop their interpersonal skills to communicate with others about complex processes and possibilities. They should also learn to accommodate themselves well in team work.

Data science is crucial at a time when India aims to become a global hub for manufacturing, Artificial Intelligence (AI) and related technologies. A large number data science jobs are set to be in demand in India as well as overseas in the coming years and students interested in this field should acquire adequate skills while they are in college to build a bright career for themselves. Also, research on expertise has shown that it normally takes around ten years of rigorous engagement and deliberate practice in any field to become an expert. So students must have patience, remain motivated, and enthusiastically engage with the discipline to develop their knowledge and skills. They must also supplement their academic studies with participation in professional networks, conferences, competitions, boot camps and engagements in projects and internships.

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Can comprehensive skilling help the unemployed and dropouts?

Somsuvro Chatterjee

letters@

Mark Twain is famously known to have said "I have never let my schooling interfere with my education". For me this is not so much a judgment on any education system – it is rather, an observation about the fact that there is so much more to educating oneself than just a formal education mechanism! A lot has been said about the Indian education system and its' flaws, however, the question in my mind is about the ideal – is there or could there be an ideal system? I am not so sure that the answer will be an emphatic yes.

If we were to not look at education in isolation and look at it more as a part of a whole that prepares someone to be an economically successful or capable person, then it would lead us to addressing the key gap today – is our education system providing the skills required?

Are the students able to translate the knowledge imparted to applicable skills in the real world? Is it mapped to current job trends? India has approximately 225 million individuals between the ages of 16 and 24, of whom approximately 187.5 million are not in any educational institution. Approximately 42 million of such youth are not employed. The 21st cen-

tury is no longer a labor-based economy and therefore needs knowledge-driven and skill-oriented workforce that demonstrates 21st century skills and knowledge. The issue of dropout in India is of particular importance and interest. A recent survey by National Statistical Office (NSO) has revealed that around 12.6% of students drop out of school in India, 19.8% discontinued education at the secondary level, while 17.5% dropped out at the upper primary level.

According to NFHS-5, "not interested in studies" was the reason given by 21.4 per cent of girls and 35.7 per cent of boys aged between six to 17 years for dropping out of school before the 2019-20 school year. The study, conducted under the aegis of the Union Ministry of Health and Family Welfare by the Mumbai-based International Institute for Population Sciences (IIPS), had surveyed 20,084 boys and 21,851 girls on their reasons for dropping out.

Surveys with corporates and their hiring process, or their list of pre-requisites for candidates shows the large gap that exists in how students are educated and what job givers look for – ability to take decisions, work collaboratively, solve practical problems, critical thinking, global awareness, workplace IT,

spoken English, awareness about virtual tools etc. are the long list of asks.

Hence, what are the immediate and crying needs? In a recent interview, Prime Minister Narendra Modi stated that it's time to open the doors for the youth to find solutions to the problems of the world through a modern education system with Indian ethos. Schools should

have the objective of transforming curriculum and pedagogy by 2022 in order to "minimize rote learning and instead encourage holistic development and 21st century skills such as critical thinking, creativity, scientific temper, communication, collaboration, multilingualism, problem solving, ethics, social responsibility, and digital literacy". While schools engage in re-building curriculum and their teaching mechanisms, other parts of the system, needs to come together to build a robust and far-reaching structure to deliver vocational skilling and skilling on 21st century skills.

While some impetus has been created in the vocational skilling space by a variety of very strong governmental initiatives, the overall effectiveness of these in generating gainful employment is still questionable. For example, as of January

2021, the total number of ITIs (Industrial Training Institutes) in India stood at 14779. Employment rates of ITI students hover around 43% to 30%, depending on multiple factors such as employment generation, relevance of the course, current demand of a particular skill etc. However, these are definitely not strong figures!

Therefore, what needs to happen better is for industry, NGOs, the government and other bodies to come together to collaborate on multiple areas – mapping relevant trades and demands, creating dynamic dashboards for the changing landscape, planning on becoming nimbler in nature, create curriculum that is relevant, dynamic and with the times and decide on delivery mechanisms that are more effective. On the content front layering of soft skills, communicative English abilities and learning other 21st century skills become imperative in this scenario. On the methodology front, real time, simulated experiences and hands on internships should become mandatory to get job ready.

However, what remains a huge gap today is the whole area of soft skills – that has assumed an importance parallel to that of hard skills. It is a gap not just because it has histori-

cally never been taught formally, but also because it has remained very elusive so far. Soft skills such as "right attitude", "better understanding of people", "ability to manage stress" or "be an avid learner" – have all been in demand and highly sought after – but no one till date has been able to quantify these in terms of measurable output and applicable skills. It has been difficult to measure the growth of learners in the space of soft skills.

Having said that, many organizations are now in advanced stages of doing just that – teaching soft skills and measuring a learner's growth. However, these are in pockets and needs to be brought together in a concerted effort to put together a larger plan of deployment in a measured manner.

Anything related to education, skilling and employability is by default an ever evolving subject and dynamic in nature, in the fact that needs change very often. Hence, nimbleness in everything that we do and the collaboration of multiple stakeholders are of paramount interest. Once we have understood this, we will be able to make faster and effective progress in the space of vocational training.

The author is Chief Learning Officer, Anudip Foundation.

Innovation and entrepreneurship – need of the hour

■ Dr Bhupati Kumar Das

et the proposition be told straightaway: there is now no option but to be innovative and entrepreneurial in today's post-Covid-19, recession-threatened environment. This is because the exponential and quantum rise of use of technology in our lives has left no other way. People may have seen the video of the press meet of Sophia, the first robot-citizen of the world, granted by Saudi Arabia.

She looked so real. Equally, the problem that humans are going to face in terms of idle time and boredom is real as robots would replace humans in doing all their regular work at home and at office efficiently. So, to prevent the idle mind from falling into the trap of devil's workshop, people would either need to go into a monk mode or get into creative mode leading to innovation and entrepreneurship. As Daniel Pink argued in his book *A whole new mind*, why right brainers will rule the future, we are going to live in the age of creativity. So, one has no option but to fall back on one's creativity (generate it if required) to tackle boredom of no work which the robotic era is heralding in.

Innovation goes to complete the cycle, imagination - creativity - innovation, which would best be taken advantage of by the new-age entrepreneurs. This is the connect.

'Can every one be creative' is the question which promptly pops up in anyone's mind. The answer is a resounding yes. Research reveals that people are naturally creative but as they grow, they learn to be uncreative. Every child is born creative. The present stimulus-response (question-answer) education system and rat-racing parental attitude are largely responsible for their losing creativity. One needs to change all this to survive in an uncertain future. The follow-up question that arises is, 'can creativity be cultivated, taught or learned'. Fortunately, the answer is yes again, particularly for technical creativity which leads to innovation. It's there in everyone. If one has ever used a pen as a weapon, a potato as a radio antenna, dried leaves as toilet paper or telephone book as a booster seat, then one is innovative.

So, that instinct needs to be re-voiced. Anyone can be trained to cultivate creativity, the only requirement is change of attitude and mindset.

Now the world wants to isolate China diplomatically, militarily and more importantly, economically. If we want to hit them where it hurts most, we have to necessarily be innovative, finding new ways to do things to beat the Chinese in their own game. For that, we need to change our mindset. During Covid-19 when Wuhan was locked down, the Chinese government told the home-confined people to be at home and concentrate on innovations. Result, a number of innovations came out, one of which is a kind of spectacles. If one wears them, one can survey a large number of people within a given area and detect who among them are Covid-19 positive. Imagine its utility for police and other authorities at airports, railway stations, sporting grounds, large political/religious congregations.

Instead, here our motto is, stay home and stay safe. We need to change our attitude to aggressively pursue innovations at every opportunity. Fortunately, the entrepreneurial revolution has already started. For example, Indian start-up Chingari app replaced Tictok taking advantage of Govt's ban of 59 Chinese apps. When it was launched there were 6 lakh downloads every hour, 11 million downloads in two days, a rate never achieved even by

Instagram and Facebook.

The key ingredient for innovation and entrepreneurship is the ability to do out-of-box, lateral thinking. One must find multiple new ideas looking at the same object. If one asks what is 1 + 1 and the answer is always 2, then computer would never have been invented. 1 + 1 can be 2 and can also be 0 depending on the system one adopts. So, one must think multi-track. Innovation is the creation, development and implementation of a new product, process or service, with the aim of improving efficiency, effectiveness or competitive advantage. An entrepreneur is essentially an innovator and a creator dealing with new ideas, goods, services and businesses or procedures.

Innovation can happen at various levels: A) At product level - like quartz watch in place of mechanical watch by Titan followed by innovative designs. It revolutionised the watch industry. B) At marketing/campaign level - like 'Just do it' by Nike; Message is not only athletes but anyone can challenge oneself to break new barriers in running. Decoy marketing is another example. C) At business model level - like Airbnb/OYO or Ola/Uber. Without having any asset, they became market leaders in their service industry.

Seven essential qualities that an innovative entrepreneur should, to my mind, possess are: creative mindset, self-empowerment, passion, vision, risk muscle, courage of conviction and heart IQ i.e. EQ.

Now is the opportune time for entrepreneurs having innovative ideas to initiate start-ups. Funding and hand holding won't be a problem. Govt policy is in place. Various organisations are ready to finance. Even in Assam, NRL has set up a separate fund to finance start-ups. Oil India Limited had earlier announced a fund of Rs 25 crore for this purpose. The Govt of Assam has set up Assam Start Up Mission mentored by IIM, Calcutta to encourage local entrepreneurs. Any prospective entrepreneur can approach them for funds and guidance to set up a start-up. Govt of India also through its start-up policy, aims to empower start-ups to grow through innovation and design with a fund pool of Rs 10,000 crore. To operationalise the policy, Government of India announced the Start-up India Action Plan that addresses all aspects of the start-up ecosystem. It is imperative that we encourage young entrepreneurs to push innovations through start-ups which is the need of the hour.

A revolution needed to make education work for young

Life skills must form the fabric of the system, not merely a part of the curriculum

SUCHETHA BHAT

One might surmise that Indian education in the last seven decades has evolved significantly, especially considering the literacy rate, which increased from a paltry 18% in 1951 to 77.7% in 2022. Since Indian independence, successive governments have worked to ensure that education is for everyone, and not just the elite.

In 1968, the Indian government wanted to streamline education. The recommendations of the Kothari Commission, which was the first commission with comprehensive reference on education, included universal primary education, three-language formula and introduction of regional languages in higher education, development of agricultural and industrial education. In 1986, education as we know today came into play, when the National Policy on Education was formalised to ensure universalisation of primary education, vocationalisation of secondary education and specialisation of higher education.

National Council of Educational Research and Training (NCERT) at national level and State Council of Educational Research and Training (SCERT) at state level were established to maintain the standard of education. In 1953, UGC was instituted to determine the standard of higher education. The last seven decades have seen greater emphasis on education and a diverse set of policies have come into play to ensure quality education. For instance, in 1995, the mid-day meal scheme was introduced to check dropout rates in government schools. Emphasising on technical education resulted in setting up of IITs, NITs and IIMs. While it is no surprise that women continue to be in the lower range of literacy rate, many states have different policies to encourage education among girls including free education.

However, what is the purpose of the Indian education system and how is it helping young Indians? While there has been progress in the education ecosystem, are we preparing the young for the future?

According to the National Crime Records Bureau (NCRB), student deaths spiked to a new high of 12,526 in 2020. While this number is alarming, and the aftermath of the Covid 19 pandemic can be blamed for it, we need to look beyond the numbers, to arrive at what is

driving young Indians to take such drastic steps. Traditionally, Indian education and its policies have always focused on degrees, marks and ranks. Study well, complete your degree with a distinction, build a great career and success follows. This has been the dominant narrative for the better part of the last seven decades.

However, in this journey to success, the social and emotional well-being of our young has been ignored for far too long. The Indian education system as we know it, currently, is not preparing young people to face uncertainties and the demands of the 21st century. With the National Education Policy (NEP) 2020 promising to bridge the skill gap and empower young people for a promising future -- and including life skills as a part of the curriculum -- Social Emotional Learning (SEL) has come to light, although dimly. If success continues to be equated with power, money and status, our young will continue to be on the losing side.

As we celebrate 75 years of independence, we are at an opportune moment to transform education and change the course of young peoples' lives. There is an urgent need for policy makers to look at education as a means for a holistic and happy life for our young people. Life skills cannot just be a part of curriculum where an hour is set aside for it; it needs to be ingrained in the very fabric of our education.

The focus needs to shift from marks to equipping young people with relevant life skills to help them navigate through life and thrive. There is a need for all stakeholders in the educational ecosystem to acknowledge now more than ever, that the 'one size fits all' approach no longer works.

Learning needs to be made relevant, student-led, parent engaged and teacher empowered. Education systems need to be led from a space of equity, inclusivity and dignity. One way to do this is to unlearn what has not served us, what has not served young people and ask honest questions on how we need to change the way success has been popularly defined in our education. Can success also mean young people taking responsibility for their lives and communities? Can success mean young people who are happy with their life choices? Can success mean young people overcoming everyday adversities and being resilient to face life's many uncertainties? Stakeholders in the education ecosystem need to create space for young people to thrive and rewrite the narratives of what success means to them.

(The writer is CEO, Dream a Dream, a not-for-profit for empowering young people from vulnerable backgrounds)

24/11/22

On the aggressive promotion of Sanskrit

Hidden agenda

G.N. DEVY

One of the many micro social engineering initiatives floated and enacted upon by the champions of the Hindu *rashtra* is to bring the Sanskrit language back into circulation. One often hears them say that if Hebrew could be brought back to life by Jews, why cannot Sanskrit be revived by Hindus? The Hebrew revival pioneer, Eliezer Ben-Yehuda, who led the movement towards the end of the 19th century, is their inspiration. The point missed by them is that the Hebrew revival movement emerged as a reaction to widespread anti-Semitism in Europe. Hebrew had run its course in history and had been long forgotten when the attempts to revive it began. Sanskrit, along with Greek, Latin, Arabic, Tamil and Hebrew, is one of the languages with great longevity. These languages emerged in the ancient world around the same time. Arabic, Greek and Tamil continue to survive, while Latin and Sanskrit declined and branched off into numerous modern languages. The desire to regain one's '*punya bhumi*' — the land of theological tradition — had some justification in the case of the Jews as they wandered in exile for a long historical period. That was not the case with Latin-speakers. Hence, there has not been a similar craving for the revival of Latin. The Latin world, after the decline of the Latin language, witnessed the blossoming of modern European languages and led the rest of the world through science and enterprise. Pointing to the case of Hebrew revival and making it the guiding star for cultural and educational policies of India amount to misreading its historical context and heading towards obscurantism.

Several untenable claims are made in favour of Sanskrit by the votaries of Hindu *rashtra*. One of these is that Sanskrit has all the knowledge that anticipates modern scientific developments, a claim that hardly stands scrutiny notwithstanding the intellectual achievements of that language. A language remains relevant if people do their labour, their commerce, their intellectual transactions and social exchanges using it. The census of 2011 shows that there were about 24,000+ Sanskrit-speakers in India among the 121 crore processed for the census. Since the 2021 census has been delayed, it is impossible to know if the proportion of Sanskrit-speakers has shot up dramatically. An anonymous, widely-circulating social media appeal, translated into several languages, asked people to 'claim' Sanskrit as one's mother tongue by all Hindus lest public funding is claimed by foreign languages (read, Persian and Arabic). Yet, one needs no census to know that the proportion of the persons who can use Sanskrit competently is negligible in the Indian population.

There is no doubt that Sanskrit — an ancient language — and Tamil — a



living language — had a glorious past. Sanskrit managed to survive because of its linguistic ability to generate compound words for forming new words. It had an unusual ease with the use of suffixes or affixes to produce a string of synonyms and antonyms. In Sanskrit, just the addition of a simple phoneme, 'a' or 'na' or 'un', allows one to produce antonyms and, therefore, a large range of semantic tokens. It was the generative power of Sanskrit that was its strength, making it a durable language with an ease of geographical spread. However, the spread was not entirely because of its linguistic structure. The turning point in ancient history was the use of copper, the control of horses, and the use of wheel-run wagons that allowed ancient Eurasian steppe people to move out towards the south and the west. In the process, what is described as the 'Proto-Indo-European' branched into Indo-European, Indo-Iranian and Indic. Indic was subsequently named Sanskrit. Its earliest form was related to the language of the *Avesta*. One notices that at least 380 words — such as *Indra*, *Mitra*, *Varuna*, *homa*, — used in the *Avesta* are found in the Rig Veda. The spread of ancient languages resulted from the material changes taking place in the world during the second millennium BCE. It was the time when the earliest form of kingship was emerging in western and south Asia.

The languages that were spoken in India prior to the arrival of Sanskrit constantly interacted with it. Out of the interaction emerged new forms of Prakrit as well as the Apabramsa varieties. The interaction continued till the beginning of the second millennium CE when Sanskrit declined, making way for the modern Indian languages. By the tenth century, we notice that the writers using Sanskrit had consciously started engaging in bilingualism. Rajashekar of the ninth/tenth century wrote his farcical plays in an early form of Maharashtri Prakrit, while his other works were composed in Sanskrit. From the eleventh century onward, India had writers who

knew Sanskrit but chose to write in their own languages. By the sixteenth century, the Marathi poet, Eknath, questioned in defiance of Sanskrit, "If Sanskrit was created by Gods, was Marathi created by thieves?" This had been happening in the entire area where Sanskrit had previously dominated the theological, cultural and political domains of life. Sanskrit enjoyed glory till about the eleventh century. Later, it got replaced by modern languages such as Assamiya, Bangla, Marathi, Gujarati, Kashmiri, Odiya and Nepali and the early forms of Hindi.

There is no doubt that Sanskrit, like Latin and Greek, has been a great language. One has good reasons for being proud about the Sanskrit heritage. But excess of pride can degenerate into 'unreason', particularly if one overlooks that in the past a larger section of society in India was deprived of education as Sanskrit became a *varna* attribute. That history of inequality and deprivation too is a part of that inheritance. The kind of sociology that created a stranglehold over knowledge was not an essential feature of Indian society prior to the advent of the Sanskrit language. Owing to the ideas of pollution that sprung up in Sanskrit *shastra*-texts, India's ability to produce useful knowledge suffered a deep wound. Sections of the society associated with labour, crafts and skills were denied their due place in knowledge transactions and started getting treated as subhuman. As a result, the Sanskrit knowledge stock started becoming obsessed with emphasis on 'knowledge of the past' and devoted a disproportionate amount of intellectual energy towards re-processing already existing knowledge stock. Combined with a certain degree of false pride, the interest in the past generates not just 'untruth' but also 'unreason'. This obscurantism can altogether destroy the idea of equality on which our Constitution and democracy are founded. It is necessary to know that the aggressive promotion of Sanskrit is not primarily a linguistic project but a social engineering one. Td/1/10

TEST TRAUMA

Holding examinations is turning out to be a stern test for the National Testing Agency. The second phase of the Common University Entrance Test faced a major technical snag when the NTA failed to upload question papers on time, forcing more than 50,000 candidates across 41 centres in 29 cities to return home without sitting for the examination. There were other logistical slips as well. Many candidates found out that their examination had been rescheduled only after reaching the centre; question papers could not always be accessed; some examinees could not complete their answer scripts because of server trouble. Incidentally, this is not the first time that the computer-based entrance test has been marred by technical glitches. This has, naturally, raised doubts regarding the competence of the NTA. The bungling is unpardonable because the body has had the experience of conducting the Joint Entrance Examination-Main, National Eligibility cum Entrance Test and the National Eligibility Test before. Worse, an adequate explanation for these lapses continues to be elusive. The testing agency had initially attributed the problems to the non-compliance of protocol by examination centres. However, soon after, the chairman of the University Grants Commission, M. Jagadesh Kumar, alleged that there are indications of 'sabotage'.

The NTA has announced that the retests will be held between August 24 to 28. However, this cannot count as relief. These glitches have undoubtedly heightened the emotional stress and anxiety of students — one student reportedly has had to prepare for the CUET for the fourth time this year. The NTA must admit that complacency may have led to under-preparedness, which, in turn, caused disruptions. Unlike entrance tests for specialised courses, CUET tests 54,000 unique subject combinations. This requires a complex but sturdy IT and administrative infrastructure that evidently needs to be bolstered. This is particularly worrying given the pronounced push towards the digital in the sphere of education. The spillover effect — delays in the higher education cycle — will be acutely felt by the student community. Ironically, the students appearing for the CUET were also the ones who had faced disruptions during the Class X and XII exams. The NTA and the education ministry must unearth the reasons behind these persistent challenges. Otherwise, it will only erode public trust in the scaffolding that bears the weight of education.

tel/11/10

विश्वविद्यालयी शिक्षा में क्रांतिकारी कदम

राष्ट्रीय शिक्षा नीति यानी एनईपी की दूसरी वर्षगांठ कुछ ही दिन पहले मनाई गई। प्रधानमंत्री की अध्यक्षता वाली नीति आयोग की बैठक में भी शिक्षा नीति के क्रियान्वयन पर गहन चर्चा हुई। 21वीं सदी की चुनौतियों से मुकाबले के लिए तैयार एनईपी-2020 के उद्देश्य बहुत उच्च और दूरगामी हैं, लेकिन इनका क्रियान्वयन अपने आप में एक चुनौती है। एनईपी-2020 का एक प्रमुख लक्ष्य विद्यार्थियों का चरित्र निर्माण है, ताकि शिक्षार्थियों के जीवन के सभी पक्षों और क्षमताओं का संतुलित विकास हो सके। भारतीय चिंतन परंपरा में चरित्र निर्माण और समग्र व्यक्तित्व विकास, विद्या या कहें कि शिक्षा का महत्वपूर्ण लक्ष्य माना जाता है। वर्तमान युग में चरित्र निर्माण और समग्र व्यक्तित्व विकास की जरूरत और बढ़ जाती है।

यह अनायास नहीं कि एनईपी-2020 की घोषणा के साथ ही मानव संसाधन विकास मंत्रालय का नाम बदलकर शिक्षा मंत्रालय कर दिया गया। मानव संसाधन से ध्वनित होता था कि मानवीय संवेदना, भावों एवं संस्कारों से रहित मनुष्य जैसे एक भौतिक संसाधन मात्र हों जिसे इस्तेमाल कर फेंक दिया जाए। यह एक तरह से पश्चिम के भौतिकवादी चिंतन से प्रेरित था। जबकि शिक्षा अभिधान मनुष्य के भौतिकवादी पहलु के साथ-साथ चारित्रिक, सांस्कृतिक और मनोवैज्ञानिक सभी पक्षों को समाहित करता है, जो भारतीय चिंतन-पद्धति का प्रतिबिम्ब है। युवाओं की इन्हीं जरूरतों को ध्यान में रखकर एनईपी-2020 के क्रियान्वयन की दिशा में दिल्ली विश्वविद्यालय द्वारा वैल्यू एडिशन कोर्सेस अर्थात् मूल्य संवर्धन पाठ्यक्रम बनाए गए हैं। यह एक अभिनव और ऐतिहासिक कदम है। पश्चिम से प्रभावित जीवनशैली, टेक्नोलॉजी के खोल में सिमटती हुई दुनिया, रियल लाइफ के बजाय वचुअल लाइफ और इंटरनेट मीडिया का बढ़ता वर्चस्व, शारीरिक और श्रमपरक खेलकूद की जगह गैजेट गेम्स में उलझते जीवन, बढ़ते एकाकीपन ने देश के युवाओं को एक खतरनाक गिरफ्त में लेना शुरू किया है। इसका दुष्परिणाम है ऐसे असंतुलित व्यक्तित्व का निर्माण, जो स्वयं उनके लिए ही नहीं, बल्कि परिवार, समाज और देश के लिए भी अनुत्पादक और खतरनाक साबित हो रहा है। आज दिन युवाओं से संबंधित अनेक असामान्य और डरावनी घटनाएँ हमें



प्रो. निरंजन कुमार

वर्तमान में शिक्षा के माध्यम से चरित्र निर्माण और समग्र व्यक्तित्व विकास की आवश्यकता कहीं अधिक बढ़ गई है



सर्वांगीण विकास में सहायक होगी पंचकोश पहल • फाइल

देश भर से सुनने को मिलती हैं। शिक्षा के घरातल पर इन्हीं से निपटने के लिए एक सुचिंतित, सुविचारित और दूरगामी प्रयास है मूल्य संवर्धन पाठ्यक्रम। देश भर के विशेषज्ञों की सहायता से तैयार इन पाठ्यक्रमों का मुख्य उद्देश्य छात्रों का सर्वांगीण व्यक्तित्व विकास और चरित्र निर्माण और टीम वर्क का विकास करना है। मैकाले माडल की तरह ये कोरे सैद्धांतिक कोर्सेस नहीं होंगे, बल्कि प्राचीन भारतीय अध्ययन पद्धति या आधुनिक काल में महात्मा गांधी के माडल से प्रेरित सभी कोर्सेसों में प्रायोगिक अध्ययन कम से कम 50 प्रतिशत होगा। इन पाठ्यक्रमों को विज्ञान, कला और कामर्स आदि सभी के छात्र पढ़ सकते हैं। ये पाठ्यक्रम हमारे युवाओं में सामाजिक दायित्व का बोध और सेवा का भाव भरने के साथ उनमें देशप्रेम का भाव भी विकसित करेंगे।

आगामी अकादमिक सत्र 2022-23 के पहले सेमेस्टर के लिए अब तक 24 कोर्सेस बनाए जा चुके हैं। पूरे स्नातक प्रोग्राम के लिए कुल लगभग सौ ऐसे कोर्सेस बनाए जाएंगे। वर्तमान के कुछ प्रमुख कोर्सेस इस प्रकार हैं- वैदिक गणित, स्वच्छ भारत, फिट

इंडिया, आर्ट आफ बीइंग हैप्पी, इमोशनल इंटेलिजेंस, पंचकोश: होलिस्टिक डेवलपमेंट, भारतीय भक्ति परंपरा और मानव मूल्य, आयुर्वेद एंड न्यूट्रिशन, साइंस एंड सोसायटी, योग: फिलासफी एंड प्रैक्टिसेज, साहित्य, संस्कृति और सिनेमा, प्राचीन भारतीय परंपरा में आचार-नीति और मूल्य, कांस्टीट्यूशनल वैल्यूज एंड फंडामेंटल इयूटीज, डिजिटल एंपावरमेंट इत्यादि। वैदिक गणित का पाठ्यक्रम अपने ढंग का अद्वितीय कोर्स है। यह हमारा दुर्भाग्य रहा कि गणित की अपनी प्राचीन समृद्ध विरासत को स्वाधीनता पश्चात भी हम अपने पाठ्यक्रमों में शामिल नहीं कर पाए। वैदिक गणित विद्यार्थियों की संगणन क्षमता को कई गुना बढ़ा देता है। आइआइएम में प्रवेश के लिए कैट एग्जाम की कोचिंग कराने वाले संस्थान वैदिक गणित की टेक्निक सिखाते हैं।

युवाओं में बढ़ते असंतुलन, पारिस्थिक तनाव और आक्रामकता आदि से निपटने में पंचकोश: होलिस्टिक डेवलपमेंट बहुत सहायक सिद्ध होगा। तैत्तिरीय उपनिषद में उल्लिखित 'पंचकोश' के आधार पर व्यक्तित्व-चरित्र का निर्माण युवाओं को एक नई दिशा देने का कार्य करेगा। योग-फिलासफी एंड प्रैक्टिसेज कोर्सेस भी आज के जटिल और तनावपूर्ण जीवन में बहुत उपयोगी सिद्ध होने वाला है। अन्य कोर्सेसों में भी भारतीय ज्ञान परंपरा के तत्वों को यथासंभव शामिल किया है। जैसे कांस्टीट्यूशनल वैल्यूज एंड फंडामेंटल इयूटीज वाले कोर्सेस में सेक्युलरिज्म के साथ-साथ सर्व धर्म समभाव की अवधारणा भी जोड़ी गई है। धर्म को लेकर हमारी संवैधानिक स्थिति सेक्युलरिज्म की अवधारणा के बजाय भारतीय सर्व धर्म समभाव की अवधारणा के ज्यादा अनुरूप है।

21वीं सदी में दुनिया में परचम लहराने को तैयार युवाओं का नया भारत आर्थिक रूप से तो तैयार कर ही रहा है, लेकिन यह जरूरी है कि न्यू इंडिया संतुलित, चरित्रवान, सामाजिक दायित्व-बोध और राष्ट्रप्रेम के भाव से युक्त भी हो, तभी भारत पुनः जगद्गुरु बन पाएगा। आशा है कि दिल्ली विश्वविद्यालय के वैल्यू एडिशन कोर्सेस देश के विश्वविद्यालयों के लिए इस संदर्भ में एक माडल होंगे।

(दिल्ली विश्वविद्यालय में प्रोफेसर एव वैल्यू एडिशन कोर्सेस कमेटी के अध्यक्ष हैं।)

Spur scientific research

Scientists should be allowed to work without political interference



DINESH C SHARMA
SCIENCE COMMENTATOR



BOTTLENECKS: Resource crunch has affected scientific research in India. FILE PHOTO

Inculcation of scientific temper needs to be brought back on public agenda to counter pseudoscience & obscurantism.

COINCIDING with the celebrations of 75 years of Independence, the government has chosen to appoint a woman to the topmost post in the Council of Scientific and Industrial Research (CSIR). This is the first time the conglomerate of national research laboratories will be headed by a woman scientist, Dr Nallathambi Kalaiselvi. So, one can hope that it will lead to a much-needed discourse on women in STEM (science, technology, engineering and mathematics) as well, along with major issues surrounding science and technology. CSIR, which is one of the oldest research councils, represents the backbone of the country's vast science, technology and innovation (STI) infrastructure and has played a pivotal role in connecting science and society. As we look to the future, it is critical for CSIR as well as other research councils and scientific departments to reinvent themselves to face the emerging challenges.

At the time of independence, India had an institutional structure that was originally built to serve the needs of the British during the Second World War and an archaic educational system. At the same time, the country was fortunate to have a robust scientific community that included giants like CV Raman, Meghnad Saha, Shanti Swaroop Bhatnagar, PC Mahalanobis, M Visvesvaraya and several others. Many of them worked in universities and built independent research institutes, besides being well networked with leading scientists in Europe, America and the Soviet Union. Also ready before the independence was a blueprint for national development with strong S&T inputs, in the form of reports of the

National Planning Committee (NPC). Subhas Chandra Bose, as the Congress president in 1938, had formed NPC and named Jawaharlal Nehru its chairman. After 1947, the sectoral reports of the NPC paved the way for industrialisation as well as development based on application of S&T to solve basic problems in health, food and nutrition, housing, energy, infrastructure etc. The era of 'revolutions' — Green Revolution, White Revolution, Blue Revolution, Yellow Revolution etc — helped India become self-sufficient in key sectors and overcome shortages. National laboratories under various research councils developed the necessary know-how, technology and techniques, and successfully disseminated them. Given the pressure on available resources for development projects in several sectors at the same time, help was sought from international sources such as the UN agencies and through bilateral agreements. The vision from the beginning was the application of S&T for national development. This applied even to a high technology area like space too, as reflected in the use of satellite commu-

nication for education, remote sensing, weather forecasting etc.

The continued focus on public investment in scientific research over the decades helped India develop indigenous capability which helped the country face new challenges from time to time. For example, the development and manufacturing capabilities that gave us the Covid-19 vaccines, and the health system that successfully delivered the vaccines to one billion people, are a result of the early investments in national research system and linkages it built with the industry. The communication, software, information technology, outsourcing, supercomputing and digital revolutions seen in the past three decades are not just a result of economic liberalisation or pro-market policies, but a fruit of the state policy and the vision of creating institutions like the IITs, IIMs, IIITs and NTITs. Specialised mission-oriented agencies like the Centre for Development of Telematics (C-DOT) and Centre for Development of Advanced Computing (C-DAC) have played a stellar role.

All this does not mean that every-

thing is fine with the STI system. There are several issues that demand urgent action, as we chart out path to the future. Some areas were either neglected or marginalised in terms of investment and policy support. For instance, India was among the first countries globally to have a dedicated department (later ministry) for the promotion of renewable energy. Electric mini-buses used to operate in the national capital in the 1980s, pilot projects were funded for community-based biogas plants, grid-independent solar energy, smokeless *chulhas* etc. But R&D investment remained sub-optimal and policy support to mainstream renewables was missing. Another example is semiconductor design and fabrication where we took an early lead but faltered on the way.

A major issue is of stagnating R&D funding over the years. While it has gone up in absolute terms, but as a percentage of GDP, it is almost static at below one per cent. In contrast, China spends about 2.2 per cent of its GDP on R&D. The research funding in the private sector in India is almost negligible. In the past few years, even government laboratories are facing a resource crunch. The research system, industry and academia linkages are still a distant dream. India has a large S&T bureaucracy with a plethora of scientific ministries, departments and funding agencies. And most of them work in silos, resulting in delays, duplication and avoidable expenditure. The proposed National Research Foundation should be given necessary mandate to change the situation.

While the government needs to adequately fund scientific research, scientists and research bodies should enjoy relative freedom and autonomy with no political interference. The national STI system needs to be geared to focus on research in strategic areas like climate change, energy transition, sustainability, new materials, mobility, food security, health and medical research. Above all, inculcation of scientific temper needs to be brought back on public agenda to counter the threat posed by pseudoscience and obscurantism, along with the thrust on improving the quality of science education.



CUET-NEET-JEE

Good idea. But terrible without massive prep

India's higher education regulator is working on a proposal to integrate engineering and medical entrance exams into the undergraduate common university entrance test, and the driving logic is no different from what drove both NEET and JEE's evolution. These two common entrance exams had to overcome huge resistance to go full throttle, but they have clearly proved the doomsayers wrong, setting up a more efficient and less painful pipeline to scarce seats than the glut of separate exams they replaced. At the same time, the many agonies inflicted by a dramatically expanded CUET-UG this year call for proceeding with care.



Higher education institutions that will be impacted by the CUET-NEET-JEE integration include some of India's most cherished centres of excellence. Only through consultations with them as well as with other key stakeholders will NTA be able to arrive at robust alternative testing. For example, NEET has very high biology standards and JEE a very high math threshold. Both these test Class XI as

well as XII syllabi while CUET quizzes only the Class XII syllabus. But reconciling these divergent needs is quite doable with proper groundwork and NTA shouldn't be reinventing the wheel either. Learn from South Korea, a quality education exemplar and which channels all its university intake through a single-day, five-session exam.

Of course, no other country's system can simply be duplicated in India. Processes have to be developed to work across our own diverse local contexts. Harrowing CUET glitches have driven home costs of under-preparation on this front. Any CUET-NEET-JEE integration will be looking at upwards of 43 lakh applicants compared to around 5 lakh for South Korea's CSAT. Don't sabotage the noble goal of saving students from a multiplicity of exams through slapdash implementation. 10/13/28

Revamping education

The present schooling system suffers from many faults

V.P. Dhananjayan

The increasing suicidal tendency among school, college and university students is a major concern in our country. The violence that follows the death of a student results in destruction of public property and more bloodshed. The recent incidents at Kallakurichi in Tamil Nadu are an example.

The present schooling system undoubtedly suffers from many faults or deficiencies. Our education system eschews moral, spiritual and philosophical lessons in the curriculum, which has become the crucible of the so-called academic "education".

Just obtaining a certificate or degree cannot be considered education. Our *sathana dharma* emphasised good character and conduct as the fundamental quality a human should imbibe or absorb from any studies.

Rabindranath Tagore said, "Education without character is a body without head." Where we have erred after Independence is in letting the system of education go awry, driving young minds to wander in pursuit of money-making by hook or crook.

To revamp the worsening situation, the modern system should reintroduce spiritual upbringing, diverting young minds to character moulding first and then to whatever profession or career they want to choose. The present system does not engage the children in sports, art activities, religious discourses, listening to great personalities and interacting with noble people.

Social welfare

The institutions should realise the importance of harnessing the intelligence of the children toward a clean thinking for the welfare of society and not harping or insisting on getting high marks only. The mark-oriented education should be stopped forthwith.

The commercial system-oriented educational institutions cram information into the tender minds of students and infuse frustration, tension and stress. All that lead to suicidal thoughts and addictions to so many wrong things we our-



selves made available to such weak minds. The commercialism and the atrocious entertainment industry contribute to the wrongdoings of the present generation of children and adults alike.

Therefore, to save the next generation at least, the authorities (government and private institutions) should rewrite the syllabus to include model moral education from the nursery classes, irrespective of caste, creed, religion, region, economic status and so on.

This may not be a herculean task to implement. If there is a mind, there's a way to correct ourselves.

Suffice it to say, it is our earnest appeal to all schools, colleges, universities and so-called educational institutions to include in their curriculum (make it mandatory) strict discipline in all aspects of life, study and behaviour. They should include art in education, values of moral studies and create opportunities to interact with great people in different walks of life.

They should engage the young minds in various cultural, artistic activities, games and sports.

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Moulding the FUTURE

Educational institutions should develop a parallel structured programme towards changing the mindset of the students

P. Kuganantham
Sanjana Priyadarshini

Every nation strives to provide health and education as basic rights for all its citizens. Unfortunately, the poor in many countries still suffer injustice and lack access to healthcare and educational institutions.

In the recent days, the media has been reporting more number of suicides among school and college students, especially women; violence and murders among the youth; unhealthy politics and fights leading to a stalemate in development; road accidents causing an increasing number of deaths due to bad roads and drunken and rash driving; and an increasing number of domestic violence cases due to unemployment, alcoholism and socio-economic discrepancies among the large population.

All these indicate the poor quality of life and living standards of our people in the available socio-economic and political situations of society. We could explore the reasons with our own previous generations and their failure to develop a congenial environment for the next generation to find a healthy living.

The educational institutions play an important role in building the present and the future generations as responsible and worthy individuals with knowledge, a positive attitude and a spirit of coexistence, helping each other in trouble and living a happy shared life. The teachers of these institutions have to be more responsible to understand the future needs of the generations and the country and should be role models to develop a generation of creativity and humanness.

In all the developed countries, the importance of building the younger generation to change the trends of the country was felt much earlier by everyone – the people, leaders, educational institutions, policy makers and political parties. The educational institutions especially developed study models and training pro-

grammes on attitudinal and behaviour change as part of the academic education in schools.

One-third of the population in our country is spending long hours in educational institutions for studies. It is the ideal period to bring in changes among them in behaviour, attitude and a vision for the future.

The question is, are we prepared or equipped and do we have an agenda with our resources to bring in changes among our younger generation of students through training in our educational institutions?

Raising standards

Raising the standard of teachers, supporting staff and administrators in the education field and moreover, the busy parents who are occupied with their work is a challenge before us. So it starts with the training of teachers in bringing about an attitudinal change towards the students by being role models and through their willingness and interest in changing the younger generation to develop a proper understanding of liberty, equality, fraternity, self-righteousness and brotherhood. They should desire to bring in changes among youth for developing an egalitarian society. The same attitude should be developed among the supporting staff.

The parents need to be oriented towards grooming their children and their behaviour and attitude and changing the psychosocial aspects of the family and societal atmosphere, which will grossly influence their children.

The educational institutions should develop a parallel structured programme along with academics towards changing the mindset of the students through parents, teachers, supporting staff and media. The component of the programme should start with assessing the mindset of students who come from different socio-economic backgrounds. It could help the teachers and trainers to understand their needs, strength and deficiencies. This programme should be integrated as part of the already existing health programmes



for students.

The programme envisages screening of all the students for minor and major ailments, history of familial illness and mental status of students through prescribed assessment forms. The illness shall be categorised and computerised for ready reference.

Minor ailments are treated in the vicinity of the institution by a medical team. Major ailments are referred to specialty hospitals, which are usually fewer in number. Some of the familial and hereditary illnesses such as hypertension, diabetes, hyperlipidaemia, myopia, obesity and breast cancer could be addressed with definite precautionary methods from childhood as prevention strategies. The behavioural changes and food habits alter the genetic representation of diseases pattern of the individual. If these preventive methods are followed from childhood, the individual could be made physically and mentally fit to face the future world of challenges.

The entire team involved in this programme – educational administration, parents, teachers, supporting staff, media and the students – should be made to understand clearly that education is not something to add to qualification or degree but to make an individual to be a better human being with a positive attitude to society.

Unfortunately, education is considered a tool to add a pridelful degree and get employment but not to be a man or a woman with positive human attitudes. The real education should remove the social barriers.

The students should also be mentally prepared to adjust with newer environments, success, defeat, worry and happiness with the available training models with illustration through plays.

Sufficient amount of budgeting is required for the smooth running of this training and it shall be mandated through government orders and implicit obedience and implementation of these orders by all the educational institutions. The institution should never try to exhibit the differences on the grounds of religion, caste, region, and colour at any point of time and if at all it is required for administrative purposes, it should be confidential without other students knowing about it.

This programme should also involve students in physical labour through sports, gardening, upkeep of campus, and social activities through the NSS and the NCC, which also brings in closeness among the students without any barriers.

We have to take a strong decision to develop this scheme standard and age-wise with experts to bring in strong positive mental and physical attitudes through training and implement it meticulously involving both government and non-governmental agencies. Each educational institution should form a medical and health unit with a doctor, nurse and psychologist. This will definitely reduce hatred, any suicidal tendency and selfishness and set a great dream towards developing the future generation of our country.

Are we prepared or equipped, and do we have an agenda, to bring in changes among our younger generation of students?

एक क्रांतिकारी योगी के सपनों का भारत

महर्षि अरविंद मानते थे कि राष्ट्रीयता महज राजनीतिक कार्यक्रम नहीं, बल्कि ईश्वर प्रदत्त धर्म है। राष्ट्र भूमि का टुकड़ा नहीं, माँ है जिसे बेड़ियों से मुक्त कराना धर्म है



पंकज श्रीवास्तव

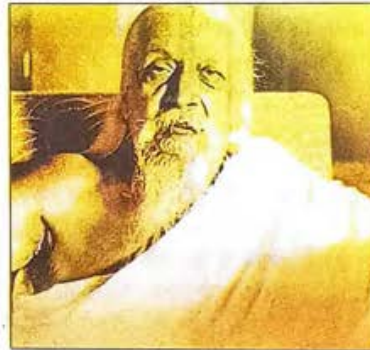
1893 में पूर्व और पश्चिम के बीच हुई दो यात्राओं ने भारत ही नहीं, पूरे विश्व को प्रभावित किया। एक यात्रा स्वामी विवेकानंद ने की थी जो भारत से अमेरिका के शिकागो पहुंचे थे। वहां विश्व धर्म संसद में हुए उनके व्याख्यान ने पूरी दुनिया का ध्यान वेदांत की ओर खींचा। दूसरी यात्रा 14 साल तक लंदन में रहने के बाद भारत लौट अरविंद घोष ने की जो भारत के राजनीतिक-वैचारिक आकाश में छा गए। आजादी का अमृत वर्ष उन्हीं महर्षि अरविंद का 150वीं जयंती का साक्षी बनेगा जिन्होंने परतंत्र भारत में पहली बार 'पूर्ण स्वराज' का आह्वान किया और 'आध्यात्मिक राष्ट्रवाद' के प्रणेता बने।

असफलता और स्वतंत्रता संग्राम : कलकत्ता में 15 अगस्त 1872 को जन्मे अरविंद घोष एक गजबकन चिकित्सक डॉ. कृष्णधन घोष और म्यंगलता देवी के तीसरे पुत्र थे। जब अरविंद घोष

महज सात साल के थे तभी 1879 में उनके पिता ने परिवार को लंदन भेज दिया। अपनी तीक्ष्ण बुद्धि से सबको प्रभावित करने वाले अरविंद ने ग्रीक, लैटिन, फ्रेंच और अंग्रेजी भाषा और उसके साहित्य के अध्ययन में असाधारण योग्यता दिखाई। बाद में अंग्रेजी राज की सबसे ऊंची सिविल सर्विस आईसीएस की परीक्षा उन्होंने अच्छे अंकों से पास कर ली लेकिन घुड़सवारी में पीछे रह गए। कौन जानता था कि यह 'असफलता' भारतीय स्वतंत्रता संग्राम को गति देने में सफल योगदान साबित होगी।

विदेश में 14 बरस बिताकर अरविंद घोष जब भारत लौटे तो भारत में हर तरफ निराशा थी। शुरुआत में अरविंद घोष बड़ौदा रियासत की प्रशासनिक सेवा से जुड़ गए। यहां उनका मन नहीं लगा। कुछ समय बाद वह बड़ौदा कालेज में प्रफेसर हो गए, फिर वाइस प्रिंसिपल बना दिए गए। वह बेहद लोकप्रिय शिक्षक थे। उधर, कांग्रेस में नरम और गरम दल का झगड़ा बढ़ रहा था। अरविंद घोष लोकमान्य तिलक से काफी प्रभावित थे।

गरम दल के साथी बने : 1905 में बंगाल विभाजन के बाद जैसी प्रतिक्रिया हुई उसने पूरे देश में राष्ट्रवाद की नई लहर पैदा की। अरविंद घोष ने 1906 में कलकत्ता कांग्रेस अधिवेशन में हिस्सा लिया और यहीं नेशनल कॉलेज में प्रिंसिपल हो गए। वह कांग्रेस के गरम दल के



कॉमन रूम

साथ थे जिसकी तिकड़ी लोकमान्य बालगंगाधर तिलक, विपिन चंद्र पाल और लाला लाजपत राय (बाल, पाल और लाल) के रूप में मशहूर थी। यह दल याचना की भंगिमा छोड़कर अंग्रेजी राज से दो-दो हाथ करने के पक्ष में था।

अरविंद घोष का संबंध क्रांतिकारियों के दल अनुशीलन समिति से भी था। वह अंग्रेजी अखबार 'वदेमातरम' का संपादन करने लगे जिसमें छपे उनके लेखों ने राष्ट्रवाद की चिंगारी भड़काने में अहम भूमिका निभाई। हर तरफ स्वदेशी और विदेशी वस्तुओं के बहिष्कार के नारे गूंजने लगे। उन्होंने निष्क्रिय प्रतिरोध का विचार दिया। 1908 में उन्हें 'अलीपुर बम कांड' में गिरफ्तार कर लिया

गया। प्रख्यात वकील देशबंधु चित्तरंजन दास के अथक प्रयासों से वह 1910 में बरी हो गए।

अध्यात्म की तरफ मुड़ना : सबको उम्मीद थी कि जेल से निकलकर अरविंद घोष स्वतंत्रता आंदोलन में पूरी ताकत से जुटेंगे लेकिन अब वह एक बदले हुए व्यक्ति थे। वह पांडिचेरी चले गए जो तब फ्रांस का उपनिवेश था और जहां अंग्रेजी पुलिस सीधे हस्तक्षेप नहीं कर सकती थी। अलीपुर जेल में रहते हुए उन्होंने गीता और उपनिषदों का विषय अध्ययन किया था। वह स्वतंत्रता आंदोलन से अलग होकर धर्म और अध्यात्म की ओर मुड़ जरूर गए थे, पर समकालीन मुद्दों पर उनको राय बहुत स्पष्ट होकर आती थी। उनके अनुसार 'राष्ट्रीयता महज राजनीतिक कार्यक्रम नहीं, बल्कि ईश्वर प्रदत्त धर्म है। राष्ट्र भूमि का टुकड़ा नहीं, माँ है जिसे बेड़ियों से मुक्त कराना धर्म है।'

महर्षि एक ऐसी शिक्षा पद्धति चाहते थे जो विद्यार्थियों को नैतिक और आध्यात्मिक ऊंचाई दे। वह चाहते थे कि सभी विषयों की शिक्षा न देकर विद्यार्थियों को कुछ विषयों में पारंगत बनाया जाए। उन्हें दो बार नोबेल पुरस्कार के लिए भी नामांकित किया गया था। 5 दिसंबर 1950 को 78 वर्ष की आयु में पांडिचेरी के आश्रम में उनका निधन हुआ। प्रख्यात फ्रांसीसी लेखक रामां रोला ने महर्षि अरविंद को एशिया और यूरोप की प्रतिभा का सर्वोत्कृष्ट समन्वय माना है।

Will We Fix Education?

Only if politicians get serious about learning



Devesh Kapur
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India is a country with limited natural endowments – be it land, water or oil. But it has one endowment in abundance – people. Substantially improving the human capital of its people will be critical for India to realise its various ambitions. In particular,

India will have to fundamentally change how it treats the most vulnerable segment of any society: its children.

Starting unhealthy: It is important to remember that good health is essential for learning and prosperity more broadly as expressed in the saying *pehla sukh nirogi kaya, dusra sukh ghar me maya* – the first happiness is a healthy body while the second happiness is wealth at home. The foundation of a person's health is laid in early childhood. Interventions later in life cannot compensate for early childhood deprivations. As Tawney put it, "Equality of opportunity requires not just an open road but also an equal start." And that equal start begins from childhood.

More than one-third of children under five years in India are stunted. According to Unicef, stunting in early childhood is associated with an underdeveloped brain and long-lasting harmful consequences such as poor school performance and reduced earnings.

The Covid crisis laid bare the multiple weaknesses of India's health system. But its children's unconscionably high stunting is of long standing. Improving that requires sustained efforts from better prenatal and postnatal care of mothers to universal vaccine regimes, adequate nutrition, access to clean water and sanitation as well as to public health clinics and workers.

Many kinds of apathy: While India has made substantial progress in access to schools and higher education, learning outcomes are extremely weak. And this sadly seems unlikely to change soon.

Lip service apart, no political party either understands or has a

deep commitment to improving learning. Children are a marginalised political constituency and while they are the country's future, today they do not vote or protest and hence have no political voice.

This apathy, if not perverseness, is manifest in multiple dimensions. Innumerable school teacher recruitment scandals from UP and Haryana to West Bengal, the large number of teacher vacancies, and high absentee rates of public school teachers, are all a damning indictment of how well India's politicians safeguard the interests of the country's children. It is well-known that public school teachers – who are much better paid than their private counterparts – sending proxies to stand in for them, or simply not showing up, is a widespread phenomenon in north Indian states. But how many are ever fired? Their protections are much more important than protecting the needs of children.

The situation is scarcely better in higher education, exemplified by the Vyapam scandal in MP, which is the poster child for rigged admission and recruitment tests. Between 2000-01 and 2017-18 India added 27,220 new colleges, averaging to 4.4 new colleges every day for 17 years. Many are private colleges run by politicians and are a major locus of black money. When even IITs have a 40% faculty vacancy rate, what do we think young people are learning in these colleges? They will graduate with credentials, aspirations and debt, but what about skills and knowledge?

Taming WhatsApp university: More fundamentally, no political party really cares about learning and knowledge – what it means and how it is nurtured. For many in Indian society, WhatsApp is the principal source of knowledge. The motto of the Royal Society – Take nobody's word for it – runs counter to the norms of a hierarchical society and a polity where the imperatives of rents and ideological control take precedence.

A society that is infinitely more outraged over a tweet than how a median child's needs are addressed, is a society that does not care for all its children. And a society that does not take care of all its children will not take care of its future.

toE/15/24

Employability today has much to do with collaboration and critical thinking. India must prepare for that

Weaponising Knowledge



Ashish Dhawan & Pramath Raj Sinha

All of a sudden, virologists and biologists were working with statisticians, mathematicians, computer scientists and community health specialists to build models to predict the course of a rampant disease. The current uncertain state of the world economy is another example of an issue needing interdisciplinary thinking combining multiple traditional subjects.

And therein lies the overarching reality of the 21st century — studying mathematics or economics or coding or history by itself has limited merit today, and no student can afford to approach the world with blinkers on, having focused on and excelled in one domain but oblivious of everything else.

Cross-Pollination

As the National Education Policy (NEP) 2020 says, 'Assessment of educational approaches in undergraduate education that integrate humanities and arts with science, technology, engineering and mathematics (STEM) have consistently showed positive learning outcomes, including increased creativity and innovation, critical thinking and higher-order thinking capacities, problem-solving abilities, teamwork, communication skills, more in-depth learning and mastery of curricula across fields, increases in social and moral awareness, etc.'

Importantly, this approach to education ensures that students get to learn not just in the classroom but from each other as well. It changes the environment into one of continuous learning. 'This is the core objective of the NEP — developing the ability to think beyond the boundaries of your discipline and explore its interrelatedness with other disciplines, while acquiring higher-order cognitive and critical thinking skills.'

At IIT Kanpur and at Yale University, the two of us personally witnessed the power of interdisciplinarity as



Stand under the knowledge cover

undergraduates more than 30 years ago. Even though one of us (Pramath) majored in metallurgical engineering, a lone computer programming course taught as part of the core foundational courses instilled a lifelong romance with the digital world leading to a PhD in robotics, a field with little resemblance to my area of specialisation, and ultimately led to the founding of an edtech firm decades later.

Indeed, years after they graduate, IITians rave about the humanities and social sciences (HSS) electives they could choose during their BTech degree courses.

For the other one of us (Ashish), an Ivy League liberal education meant an enduring love for books and reading beyond the economics and mathematics dual major; and an ultimate switch to philanthropy and social impact at a relatively early life stage even at the expense of a thriving investing career. Indeed, we are both acutely aware that we were privileged to experience interdisciplinarity: the balance of breadth and depth, and the flexibility to choose electives whether majoring in engineering or liberal arts thanks to making it to some of the finest institutions in India and abroad.

NEP 2020 now aims to democrati-

se this privilege and make it available to every student who aspires for it. The Four-Year Undergraduate Programme (FYUP) is a good example of an initiative that could be a game changer for students. The programme proposes a structure in which students are exposed to different disciplines for three semesters before they delve deeper into their chosen discipline, and recommends that the fourth year be used for research.

Revolving Door

NEP additionally allows students to enter and exit FYUP at different years, as well transfer credits freely, giving students greater flexibility and empowering them to curate their own educational pathway. Implementing FYUP is challenging for our institutions but transformational for our students. Enough Indian institutions of higher education already follow the model and turn out students who find wide acceptance both in academia and industry.

As pioneers of interdisciplinary education in India, we have seen its numerous benefits accrue to our students. We hope that other institutions will benefit from it as well.

The writers are founder-trustees, Ashoka University, Sonapat, Haryana

On the 75th anniversary of India becoming a free, independent nation, the balance sheet of progress shows, expectedly, areas of great accomplishments as well as areas in which the country has languished.

Focusing on the issue of higher education, apart from a small set of institutions, the education process has failed to create employable resources. Over the past five years or so, studies by established organisations have shown that a large number of Indian graduates are unemployable. As per one report, this was applicable to nearly 80% of graduating engineers.

The reasons for this low employability of Indian graduates have little to do with a lack of depth in their subject of choice. Indian education has always struggled to bridge the gap between academic learning and the application of that learning. Consequently, many companies spend a large share of their training programmes skilling their graduate recruits in areas for which their education should have prepared them.

Global research and employment trends have found that employability today has as much to do with communication, collaboration, problem-solving and critical thinking as it does with technical and functional domain knowledge. Most Indian universities do not prepare students for this reality.

The pandemic was a wake-up call for the world in more ways than one.

Develop the ability to think beyond the boundaries of your discipline and explore its interrelatedness with other disciplines, while acquiring higher-order skills



BKP SINHA

Impart knowledge with holistic education

Re-organisation of teachers' training is a must for the success of National Education Policy 2020

Nelson Mandela has rightly said that "education is the most powerful weapon we can use to change the world". It is a stairway to the growth and development of humankind. The right to education must be universal so that everyone can pursue prospects of a better future. However, the right to education is not only the right to access education. It's also about receiving a quality education.

Quality education is of paramount importance in today's complex and fast-changing environment. It fosters the knowledge, skills and values required to create a fairer and more sustainable world. According to Education International and the Association for Supervision and Curriculum Development, quality education "is one that focuses on the child's overall development - social, emotional, mental, physical and cognitive, regardless of gender, race, ethnicity, socioeconomic status or geographic location". Its goal is to prepare students for the challenges they are likely to face later in their lives.

We now realize that education alone will not lead to a sustainable future, therefore, learning about sustainable development (SD) is necessary. Target 4.7 in the 2030 Agenda for SD emphasizes the importance of transformative education that promotes global citizenship, sustainable development, human rights, gender equality, peace and cultural diversity.

The Brundtland Report coined the term "Sustainable Development" and defined it as "development that meets the needs of the present without compromising the ability of future generations to meet their needs".

It is a holistic approach and is often depicted as three overlapping circles: ecological, social and economic. It demonstrates the interplay of all parts of life and the need for their equal consideration to find lasting prosperity. But we generally have a unidirectional approach towards sustainability based on our predisposition, for example from an ecological, economic or social viewpoint, which often results in trade-offs.

The interconnected nature of the challenges the world faces today cannot be understood in isolation. For instance, every year, climate change like extreme weather events and rising sea levels force millions of people to flee their homes. This results in climate refugees and a rise in poverty. As climate change and poverty are inextricably linked, one cannot be solved without addressing the other.

To comprehend basic principles of ecology, one must think holistically about relationships, connectedness and context to realize the intricate interdependence and often unpredictable dynamics of ecological, social, and economic systems. This shift of focus from analytical thinking (parts) to contextual thinking (whole) is a prerequisite for building a more resilient world, ensuring systemic decision and policy



SUCCESSFUL IMPLEMENTATION OF NEP 2020 LARGELY DEPENDS ON THE GOOD SPIRIT AND RIGHT INTENTIONS OF THE POLICY MAKERS WHICH WILL NOT ONLY DIVERSIFY INDIA'S GLOBAL IMAGE BUT ALSO MAKE THE EDUCATION SYSTEM AT PAR WITH THE BEST IN THE WORLD

(The author is a retired IFS officer.)



making. It is regarded as a critical ability in education, as it enables students to untangle and work within the complexities of life on Earth.

Integration of education for sustainable development (ESD) into teaching and learning can help in the realization of quality education, which is critical to fulfilling many of the sustainable development goals (SDGs) such as breaking the cycle of poverty, reducing inequalities, achieving gender equality and improving agricultural productivity. It is also essential for addressing other key issues, including wasteful consumption, biodiversity conservation, natural resource use, climate change, energy, freshwater, health, sanitation and waste management.

ESD is an interdisciplinary field that integrates concepts from multiple disciplines to understand how natural and man-made processes interact with each other and ultimately affect the various biomes on the planet. Its goal is to discover novel and sustainable ways of living and managing natural resources to protect vital ecological systems and enhance long-term prospects for human prosperity.

Adopting a wide range of participatory methodologies in education, such as problem-based and project-based learning are essential to change the behaviours and equip the current and future generations with the knowledge and skills they need to shape a sustainable future. These methodologies will allow them to develop problem-solving, interdisciplinary and systemic thinking skills, which will help them learn 'how to think' rather than 'what to think' within the context of sustainability.

Our sustainable future requires societies and countries to work

together, hence, it advocates the use of collaborative learning at all stages of education. In collaborative learning, students in small groups work together on a common goal to seek understanding and solutions. It fulfills the primary purpose of education - nurturing responsible citizens who can work together to solve complex ecological, social and economic issues.

Thus, working on collaborative learning projects at an early age can boost confidence and help in developing critical thinking, positive interdependence, diverse understanding along with various other social skills such as leadership, decision-making, communication, trust-building, conflict management and a sense of ownership.

Educational institutions also need to partner with multiple stakeholders and various other sectors such as economics, environment, etc., to take up co-learning. It will facilitate students to engage with real-life issues and gain the practical knowledge and skills needed to build long-term sustainable solutions.

Conventionally, ESD has been considered a separate component within the educational systems. However, over the past few years, it has been argued that it should be integrated into mainstream disciplines at all levels, settings, and types (informal, formal, non-formal) of education. This requires a systemic change in all kinds of textbooks, including science, math, social sciences, humanities, etc. It also requires significant reforms in the educational system, including strengthening curricula, cognitive and non-cognitive elements, transforming learning environments, establishing diverse part-

nerships, providing teacher training, creating local learning opportunities, and implementing innovative pedagogies.

Teaching ESD requires knowledge of several disciplines that is generally beyond teachers' expertise. Therefore, re-organisation of teacher education is crucial to re-organising the study environment. It also entails research and development to identify best practices of pedagogy. Reforms of this magnitude, however, will not be possible without effective policies, operational frameworks, political will, financial assistance and stakeholders' cooperation.

National Education Policy 2020 is the first education policy of the 21st century, which aims to align the education system with SDGs and make education holistic, inclusive, multidisciplinary, learner-centric, inquiry-driven and experiential which can transform India into a vibrant knowledge-based society and global knowledge superpower.

Our collective responsibility to improve the quality of education is essential for achieving the ambitions of 'Agenda 2030' and ensuring continuity in the quality of human life. Governments, teachers, educational institutions and stakeholders have a vanguard role to play, along with parents and students themselves. However, we stand now where two roads diverge. But unlike the roads in Robert Frost's familiar poem, they are not equally fair. The road we have long been traveling is deceptively easy, a smooth superhighway on which we progress with great speed, but at its end lies disaster. The other fork of the road - the one less traveled by - offers the last and our only chance to reach a destination that assures the preservation of the earth. P/7

The Capital Question

Entrepreneurship is booming. Sustaining this requires massive R&D investment and more women in business

Tarun Khanna



Entrepreneurship has exploded in India in recent decades, but is the past a prologue? I certainly don't have a crystal ball, but I do think that India@75 has important lessons to learn as we move towards India@100.

With the rise of information technology behemoths and e-commerce, entrepreneurs have also risen, armed only with technical know-how, global awareness, modest access to capital and chutzpah in no small measure. To me, this unlocking of latent talent marks this era of entrepreneurship. Now, in 2022, India has the third-largest startup ecosystem globally after the US and China, with over 65,000 recognised startups that have created over 7,00,000 jobs.

To understand whether the entrepreneurship trend will atrophy, just continue, or even accelerate, it makes sense to interrogate its foundations. To my mind, there are several reasons to be hopeful, and a couple to cause concern. Let me tackle the reasons for hope first.

Public- and private-sector cooperation has expanded: In my childhood in Mumbai, antagonism between business and government dominated. We've since gained a more pro-private sector stance where would-be entrepreneurs have mostly felt enabled.

We've even had the symbolically and substantively fascinating experiment of Nandan Nilekani, the ultimate private sector personality, going into government to develop Aadhaar, and thank goodness for that. The experience with that platform has been followed by the Unified Payments Interface and its catalytic effect on the adoption of digital payments. These are emblematic of India's private sector entrepreneurial prowess being used for public good.

Policies towards entrepreneurship have been institutionalised: This includes the Atal Innovation Mission (AIM) housed under Niti Aayog. Its incubators help in the short term by giving talent from all



walks of life resources and assistance in starting a business. Further, its Atal Tinkering Labs, maker-spaces in high schools of all socio-economic strata across the length and breadth of the country, are catalysing delight in science among our youth for the longer term. I wish I had been the beneficiary of such hands-on science education!

At the annual NCAER India Policy Forum in New Delhi last month, my colleagues and I estimated that each rupee put into AIM has resulted in a payoff to society of between Rs 5 and Rs 17 in a very short time.

Diaspora has been tapped: As they are now leaders in business, politics and academia across the world, diaspora has emerged as a real lever for India to catalyse progress. China relied heavily on its diaspora in its run towards middle-economy status, coupled with fundamental, on-the-ground institutional change. This started with the late 1970s and early 1980s reforms when it courted FDI and today, their government has courted leading Chinese diaspora scientists and academics to dramatically remake higher education. India has made

Cutting-edge entrepreneurship only exists atop a base of publicly-funded scientific knowhow. We rightly celebrate our space scientists' achievements on shoestring budgets and our vaccine manufacturing capabilities, but India remains scientifically irrelevant across many domains

some tentative moves in this direction, but these are as yet minimal.

Let me turn to some key areas that still need to be addressed.

But investments in science remain woefully inadequate: India spends less than 1% of its GDP on science, a ratio that, if anything, is mildly declining. This compares to ratios in the US of 2.5%, China 2%, advanced western European economies between 3-4%, and Israel and South Korea over 4%.

We rightly celebrate our space scientists' achievements on shoestring budgets

and our vaccine manufacturing capabilities, but India remains scientifically irrelevant across many domains. Life sciences is an area where the world has moved swiftly ahead akin to, and even eclipsing, the progress in computation some decades ago. To be able to contribute to the global scientific dialogue, increased investment is needed across the domains.

Why is pure science important to entrepreneurship?

- Without a base layer of R&D, our ecosystem will likely keep delivering in mobile computing, IT services, cloud computing, but areas such as biomaterials, space, applications of genomics to agriculture, to name a few, will remain sparse entrepreneurial landscapes.
- SpaceX and Moderna, iconic US companies revolutionising space logistics and new-age drug design, would not exist without billions spent over decades by the US government. In fact, a third of US patents directly result from public sector spending, and these turn out to be the most valuable.
- Cutting-edge entrepreneurship exists as a layer atop this base of publicly-funded scientific know-how. Indeed, no society has delivered sustained GDP growth over long periods without significantly more attention to science than India exhibits today.

And entrepreneurial ecosystem needs to be much more inclusive: We are starting to see women entrepreneurs; we rightly celebrate a few Dalit titans of industry; and AIM has encouragingly embraced vernacular entrepreneurial ecosystems – all excellent first steps. But from 2018 to 2022, startups with at least one female co-founder only accounted for about 6% of total capital raised. In a new book I've co-edited – *Making Meritocracy* – we lay out many addressable low-hanging fruits to unlock India's talent.

If we don't adequately address these areas, India's youthful demography can turn into an albatross inadvertently, with less than adequate job creation that ensues from successful entrepreneurship.

So, is the recent bull-run in entrepreneurship prologue? Overall, I think so, and hope so. But it's in our hands as we move towards India@100.

The writer is Professor at Harvard Business School

Veterinary science education in Assam – the way forward

■ Prof Pritam Mohan

Homo sapiens during the Mesolithic period lived on hunting, fishing and food gathering and at a later stage they started domesticating animals for their needs. This transition from subsistence living to animal husbandry took place during the Neolithic period. In India animal domestication started in 5000 BC. In the Harappan period, though human beings settled down and started living in urban areas, animals played an important role as depicted in the Harappan seals.

After the arrival of the Indo-Aryans, the Vedic Aryans, horses became an integral part of the people. However, cows and bulls are clearly mentioned in the Rig Veda, and most of the wars were fought for cows, which were called *gavisthi* (search for cow). The *Saṁhitāsamhitā* contains discussions on ailments of both humans and animals. The *Gotamasamhitā*, *Asiyanveda* and *Harshyanveda* are the treatises dedicated to animal diseases. The *Gotamasamhitā* believed to be written by sage Gautama, was dedicated towards the science of cows, the *Asiyanveda*, composed by Salihotra, is the science dealing in horses and last but not the least, *Harshyanveda*, ascribed to Palakappa, was dedicated to the science of elephants. Another composition by Palakappa, the *Gajajastira*, also dealt with the science of elephants. The

science of treating elephant diseases was known to the people of ancient Kamrupa (present-day Assam). Much later in the Mahabharata, Nakula, one of the sons of Kunti, was considered a physician who looked after the horses of royal stables.

Kings and princes have contributed immensely towards the welfare of animals. Many shelters and hospitals were constructed to house diseased or injured animals. In Assam, especially in the Koch kingdom, many animal shelters and hospitals were constructed. Koch king Narayanrayan was an ardent lover of animals and devoted much time for their welfare.

The first ever initiative on modern veterinary medicine started during the British Empire in 1868 when Lord Mayo, the Viceroy of India appointed a commission to report on diseases of cattle in India and to take measures to prevent them. The commission recommended establishment of provincial veterinary services under the state governments. Formal veterinary education in India began in 1862 with the establishment of an army veterinary school in Pune. The first civil veterinary school was started in Babugarh (Fapur) in Uttar Pradesh, in 1877. Subsequently, the first veterinary college was started in Lahore, now in Pakistan, in 1882. Establishment of a veterinary research laboratory in India was recommended in 1885 and

actually took place in 1889 in Pune. In 1893 this laboratory was moved to Mukteswar in the Karnaon Hills of UP. The first veterinary college – Bombay Veterinary College – in India was set up in 1886.

In the east, to look after animal diseases, a veterinary section was created under the agriculture department for East Bengal and Assam in 1905. The state government separated the livestock section from the agriculture department and amalgamated it with the civil veterinary department which was subsequently re-designated as Animal Husbandry and Veterinary Department. The department found itself in extreme dearth of veterinary surgeons, which according to the Royal Commission on Agriculture, 1928, was one surgeon recommended for every 25000 heads of cattle units. In realisation of the manpower need in the veterinary profession, a veterinary college was established in Assam in 1948. The college named Assam Veterinary College, was first established at Nagoun. In 1960 it was shifted to the premises of Directorate of Veterinary Sciences, Govt of Assam at Chenikuthi, Guwahati. The college was affiliated to the Gauhati University. In 1940, it was shifted from Chenikuthi to its present permanent site at Kharipara, Guwahati. With the establishment of the Assam Agricultural University (AAU) on April 1, 1969 the Assam Veterinary College along with all physical facilities and

manpower was transferred to the AAU and renamed as the College of Veterinary Science. The post graduate programme in the college was first started in 1969 in five disciplines. Today the college provides PG and PhD degrees in 19 disciplines.

Considering the acute shortage of veterinary surgeons in the State, another veterinary college was established in North Lakhimpur in 1987, with temporary location at Azad. It was shifted from its temporary site to its permanent site Joyling in 2014, and has been imparting BVSc and AH degree programmes. The present govt realising that livestock sector can play an important role in doubling farmers' income, – dream project of the Prime Minister – has decided to open two more veterinary colleges, one in BTAD and the other in Karbi Anglong.

Agriculture in the Indian context is integrated in practice, where all components of the agricultural sciences contribute equally towards its development. This integration has paid rich dividends to the farming community. But in today's agricultural scenario where automation and artificial intelligence have crept in, agriculture in its true sense has lost its integrated ambience. To meet the ever increasing food needs of the growing population, there is increased dependence on the use of machines and chemicals. The livestock sector too has developed to such an extent that it is more commonly known as livestock industry.

The dairy sector in the State has not developed to the potential to which it is capable of. If one looks at the availability and recommended need of milk in the State, there is an average shortfall of 1618 million litres. Considering the huge shortfall in the State, there is a great potential for dairy, provided adequate support is available to the dairy farmers. Though there is a need to establish a dairy college in the State to meet the skilled manpower need, under the present set-up, the people of Assam do not see any early possibility of it.

The animal health sector has not only kept dreaded diseases like rinderpest, BCFP, anthrax, etc., in abeyance, but with the concept of one health, has supplemented efforts of human health experts in controlling and mitigating dreaded diseases of zoonotic importance, like swine flu, bird flu, monkeypox, brucellosis, etc. Diseases which were earlier the exclusive domain of animals, will affect humans and those that used to affect only humans will infect animals. So veterinarians and medical doctors must fight together against diseases.

Integrated farming is a misnomer and crop science and veterinary science should be separated. To tap the State's livestock resources, research and extension in the sector should be farmer and industry-centric, which may be possible only under a separate independent veterinary university.

Prof Pritam Mohan

Beacon of hope

Nexus of Good



ANIL SWARUP

Akshara Foundation, through a tripartite partnership between the government, private and voluntary sector, has been scaling efforts to ensure quality education for children

Nexus of Good is all about identifying, understanding, appreciating, replicating and scaling good practices. Akshara Foundation epitomises this approach. This is the reason why it has been selected as one of the awardees during the Annual Award function, 2022, organised by Nexus of Good Foundation along with FICCI Arise.

In my attempt to assess the ground reality after having taken over as Secretary, School Education, I travelled to a number of states. One such visit was to the interior areas of Karnataka where I 'discovered' one of the many solutions to the poor quality of school education.

Established as a Public Charitable Trust in March 2000, Akshara Foundation was founded on the belief that quality education is the undeniable right of every child. It was conceived as a tripartite partnership between the government, the private sector and the voluntary sector.

At the turn of the century, Bangalore was on the brink of becoming the next Silicon Valley as Y2K rolled in. However, the irony was that enrollment in government schools had dropped drastically. Something needed to be done about this issue before it spiraled out of control. It was then that the Karnataka State Education Department took the initiative to rope in NGOs to tackle this problem. Upenra Tripathy, an IAS officer (the then Commissioner for Public Instruction), played a critical role in the evolution of this unique Public-Private Partnership with equal participation and investment from the Foundation itself, Karnataka State Government, and the local donor community in Bangalore. Subsequently, it was one of the finest IAS officers, Ajay Seth, State Education Secretary, who helped to scale this model.

Over the years, Akshara has developed its own individual identity, credibility and vision. In 2003-04, Ashok Kamath, a very successful corporate professional, decided to leave it all behind and give back to soci-



The Foundation's learning tools have meaningfully touched children's lives

ety. He joined Akshara as the Managing Trustee and became the Chairman in 2008, following Rohini Nilekani who had been the then Chairperson. Akshara has gone to great heights and scale under his able leadership.

Since its inception in 2000, Akshara has run multiple programmes (*Akshara Ganitha for Math; Swalpa English Thumba Fun for English language; Prepare not Repair for Preschool Education; and The Classroom Library*) that are designed to be comprehensive, scalable, replicable and cost-effective. The Foundation has always believed that for a programme to be successful, it must be scalable. All efforts have always been designed with this in mind.

After three years of evaluation, the unambiguous success of the Akshara Ganitha programme resulted in it being adopted by the Karnataka State Government as the in-class programme for mathematics, for grades 4-5. Phase 1 saw it being implemented in the six districts of the Hyderabad Karnataka Region (about 7,600 schools). This was quickly followed by scaling it up to an additional six districts, and now every government primary school across every district in Karnataka uses this programme which has been christened Ganitha Kahla Andolana (GKA).

In 2017-18, officers of the Odisha government, led by their visionary Educa-

tion Secretary Ranjana Chopra, observed this programme in action in Bangalore and wanted to replicate it in Odisha. Within a short span of time, the programme has been scaled to cover all schools in two districts, and from 2019-20, the infrastructure in the form of kits and teacher training has been created to extend this to all schools in Odisha. In 2018, Andhra Pradesh replicated this programme as Ganitha Mitra, and this is now implemented across 5,500 schools in Andhra Pradesh. The programme now impacts over four million children across the three states.

The governments have been the anchor for GKA with consistent and strong support from Akshara Foundation and the local communities. The three state governments have also invested significant amounts in teacher training and procuring teaching / learning material (TLM) kits. Several companies, through their CSR, have supported Akshara to manage this activity by having field support across the districts and to continuously innovate and come up with better solutions that can be quickly adopted into the GKA model.

The National Initiative for Proficiency in Reading with Understanding and Numeracy — NIPUN BHARAT — Guidelines for Implementation, 2021 have cited GKA as one of the best practices in maths teaching.

Samagra Shiksha Karnataka (SSK), having studied GKA 1.0, recognises the impact of joyful maths learning on children, based on activities with Teaching Learning Materials (TLMs) and realised the need for similar TLMs for the higher grades. In late 2021, SSK requested Akshara Foundation to design and develop an activity-based pedagogy and TLMs for grades 6, 7 and 8 in accordance with the National Education Policy (NEP) 2020.

Akshara Foundation anchored the development of TLMs for grades 6, 7 and 8 under the banner of GKA 2.0, in collaboration with maths teachers from every district in Karnataka, lead pedagogy experts, and resource persons from NGOs working in maths education (the power of collaboration!).

In July 2022, the Ministry of Education approved a pilot to scale this programme across nearly 9,000 schools and it will be implemented in the districts of the Kalyan-Karnataka region.

Since 2017, Akshara has also been making investments in creating digital versions of its classroom products. The first of them was Building Blocks, a free math learning app, specifically targeted to work on low-end Android phones. Mapped to the National Curriculum Framework, it is available in nine languages and does not depend on continuous internet connections for a child to be able to access it. Since then, there have been more than 3,50,000 downloads and, with up to six children (avatars) being able to play on one phone (one download), this has potentially reached over a million children. In 2019, Building Blocks was unbundled and made available as individual 'gamelets' on state Diksha platforms and linked to energised textbooks using QR codes.

These games have so far been designed for children from Grades 1 to 5. But the love and demand for Building Blocks has only been increasing. With more community members like parents and children asking for this app to be available for children in other

grades as well, Akshara Foundation decided to create games for children in Grades 6-8 as well.

By September 2022, one half of the games meant for Grade 6 will be deployed on the Diksha Platform, in English, Kannada and Hindi. Akshara is also working on getting the government of Karnataka to print ITBs — Energized Textbooks with QR codes for these new games.

The Covid-19 pandemic, as we all know, has impacted multiple facets of education, especially in government schools. Education was completely disrupted during 2020-22. Schools closed, and children in rural hamlets, the most afflicted, were cut off from the grounding habits of the classroom.

In an attempt to ensure these children received education and learning of some nature, Akshara's field team and a 'small army' of thousands of Education Volunteers launched Maneyalla Madona Lekha (MML), Learning Maths at Home, a blended learning model of sorts.

Every week this team sent maths worksheet links to stakeholders across the spectrum, making use of every last connection they had, every single mobile phone they could utilise, and every WhatsApp group they could make use of. These worksheets were a mix of offline learning and Building Blocks, Akshara's free offline and online math learning app. Home was enshrined as a learning space.

This effort reconnected children with maths, restored confidence in them that they can handle it, a feared subject for many. They touched children's lives in a meaningful way. It reinforced classroom habits and prepared children for the reopening of schools. That technology can be a learning medium and not just a source of entertainment was a new perspective of village communities imbibed, many for the first time. Rural school-going children familiarised themselves with online learning with a smartphone in their hands.

Views expressed are personal

and/7

The unambiguous success of Akshara Ganitha programme has made it a favourite maths learning tool across the districts of Karnataka, Odisha and Andhra Pradesh

एक खतरनाक प्रयोग की पुनरावृत्ति

पिछले महीने यह सामने आया कि झारखंड के जामताड़ा जिले के मुस्लिम बहुल इलाकों में सौ से ज्यादा स्कूलों में प्रधानाध्यापक और शिक्षकों पर दबाव बनाकर रविवार के बदले शुक्रवार को साप्ताहिक छुट्टी कराई जाती है। झारखंड सरकार ने भी यह स्वीकार किया कि 509 विद्यालयों में रविवार के बदले शुक्रवार को साप्ताहिक अवकाश दिया जा रहा था। फिर झारखंड के पड़ोसी बिहार के किशनगंज जिले के 37 और कटिहार जिले के 100 से अधिक प्राथमिक एवं माध्यमिक विद्यालयों में रविवार के बदले शुक्रवार को साप्ताहिक छुट्टी का समाचार प्रकाशित हुआ। वहां न केवल साप्ताहिक बंदी शुक्रवार को होती है, बल्कि रविवार को विद्यालय खुला रहता है और उस दिन 'मिड-डे मील' की व्यवस्था भी रहती है। यह सिलसिला असल में कई वर्षों से चला आ रहा है, लेकिन इसकी भनक उन सामाजिक संगठनों को भी नहीं लगी जो 'बांग्लादेशी घुसपैठ' की बात जोर-शोर से उठाते रहे हैं।

मामले के तूल पकड़ने के बाद झारखंड सरकार ने तो स्वीकार कर लिया कि कुछ विद्यालयों में रविवार के बदले शुक्रवार को छुट्टी होती है, लेकिन बिहार के शिक्षा मंत्री ने तात्कालिक प्रतिक्रिया में कहा कि जिला शिक्षा अधिकारियों से ऐसे स्कूलों की जानकारी ली जाएगी। इसके बाद इस मामले में बिहार सरकार द्वारा कोई जानकारी नहीं दी गई। चूंकि अब वहां सरकार ही बदल गई, इसलिए अब इस मामले में कुछ होने की संभावनाएं क्षीण हो गई हैं। असम, बंगाल और बिहार के सीमावर्ती जिलों में बांग्लादेशी मुस्लिम घुसपैठियों की आवक पहले से जारी है। अकेले झारखंड के संताल परगना में ही बड़ी संख्या में बांग्लादेशी मुस्लिम घुसपैठिये आए, पर इस मामले को गंभीरता से नहीं लिया गया। 1961 में संताल परगना एक जिला था। उसमें राजमहल/साहिबगंज, पाकुड़, गोड्डा, दुमका, देवघर और जामताड़ा मिलाकर छह सर्वाधिकृत थे। ये सभी छह सर्वाधिकृत अथवा जिला बन गए हैं। 1961 से 2011 के बीच राष्ट्रीय स्तर पर मुस्लिम जनसंख्या 3.52 प्रतिशत बढ़ी। वहीं संताल परगना के साहिबगंज जिले में मुस्लिम आबादी 14.7 प्रतिशत, पाकुड़ में 13.84 प्रतिशत, जामताड़ा में 8.91 प्रतिशत और गोड्डा में 7.39 प्रतिशत बढ़ी। यह वृद्धि भारतीय मुसलमानों



हरेंद्र प्रताप

झारखंड और बिहार के कई स्कूलों में रविवार के बजाय शुक्रवार को छुट्टी एक बड़े खतरे की आहट है



स्कूलों की छुट्टी तक सीमित नहीं मुस्लिम वर्ग का दबाव = छाड़ल

के कारण नहीं, बल्कि बांग्लादेशी मुस्लिम घुसपैठियों के कारण हुई है।

1961 में संताल परगना में कुल 41 प्रखंड थे। तब किसी भी प्रखंड में मुस्लिम बहुमत में नहीं थे। प्रखंडों की संख्या अब 41 से बढ़कर 50 हो गई है और इन 50 में से चार प्रखंड मुस्लिम बहुल हो गए हैं और जल्द ही चार अन्य प्रखंडों में भी मुस्लिम आबादी की बहुतायत हो जाएगी। जिस तरह असम में नए जिले बनाने में मुस्लिम बहुल जिलों से छेड़छाड़ किए बिना हिंदू बहुल जिलों की स्थिति साजिशान बदल दी गई, वैसे ही षड्यंत्र झारखंड में देखने को मिला। असम का जो बोंगाईगांव जिला 2001 में हिंदू बहुल था, वह 2011 में मुस्लिम बहुल हो गया। इसी तरह झारखंड में साहिबगंज का उधवा और गोड्डा का बसंतराय प्रखंड मुस्लिम बहुल प्रखंड बन गया। साइबर क्राइम कैपिटल के नाम से कुख्यात जामताड़ा जिले का नारायणपुर और करमाटाड़ प्रखंड साइबर अपराधियों का गढ़ बन गया है। करमाटाड़ को नारायणपुर और जामताड़ा से काटकर ऐसे बनाया गया है, जिससे नारायणपुर और करमाटाड़ की मुस्लिम आबादी 42 प्रतिशत या उससे अधिक हो गई है।

संताल परगना में बांग्लादेशी घुसपैठ के कारण बड़ी मुस्लिम आबादी से केवल रविवार के बदले

शुक्रवार को अवकाश का दबाव जैसी इकलौती समस्या नहीं है। यहां अप्रैल 2021 का घटनाक्रम याद करना आवश्यक है। तब मुस्लिम बहुल उत्तरी दिनाजपुर में चोर पकड़ने गए बिहार पुलिस के अधिकारी अश्विनी कुमार की भौड़ ने हत्या कर दी थी। जामताड़ा और अन्य मुस्लिम बहुल इलाकों में राज्य और राज्य के बाहर से आए पुलिस कर्मियों को भी अपना काम करने से रोका जाता है। इस कारण वहां गैर-मुस्लिम डर के मोरे अपने पर्व-त्योहार और परंपराओं का उत्सव मनाना भी छोड़ रहे हैं। इसलिए वहां से उनके पलायन पर कोई हैरानी नहीं।

बिहार के मुस्लिम बहुल किशनगंज में आदिवासियों को जो जमीनें दी गई थीं, उन पर मुस्लिम घुसपैठियों ने स्थानीय नेताओं की मदद से कब्जा कर लिया। प्रशासन से उन्हें कोई राहत नहीं मिली। फिर एक जनहित याचिका पर 11 जुलाई को पटना हाईकोर्ट ने प्रशासन को निर्देश दिया कि वह इन पीड़ितों को उनकी जमीन पर कब्जा दिलवाए। बिहार की तरह संताल परगना में भी मुस्लिम घुसपैठिये आदिवासी बंधुओं की जमीन के साथ ही सरकारी जमीन पर भी कब्जा कर रहे हैं।

2020 में शरजील इमाम ने धमकाते हुए जिस 'चिकन नेक' को काटने की बात कही थी, उससे बिहार और संताल परगना के साहिबगंज-बड़हरवा होकर गुजरने वाली ट्रेनों से पूर्वोत्तर के कई राज्य शेष भारत से जुड़ते हैं। पाकिस्तान के पूर्व प्रधानमंत्री जुल्फिकार अली भुट्टो ने अपनी पुस्तक 'मिथ आफ इंडिपेंडेंस' में अपनी मंशा जताई थी कि पूर्वी पाकिस्तान को जितनी जमीन मिलनी चाहिए थी, उतनी नहीं मिली। उन्होंने असम, बंगाल और बिहार की भूमि पर इस्लामी कब्जे के संकेत दिए थे, लेकिन हमारे शासक इसे समझने के बजाय गंगा-जमुनी संस्कृति की बात करते रहे।

मुस्लिम बहुल इलाकों का तेजी से इस्लामोकरण हो रहा है। इससे आज शुक्रवार को साप्ताहिक बंदी तो कल गैर-मुस्लिमों के उपासना स्थलों पर आक्रमण का दुस्साहस होगा। गैर-मुस्लिमों को मजबूरी में पलायन करना पड़ेगा। अफगानिस्तान, पाकिस्तान और बांग्लादेश के बाद पहले कश्मीर और अब संताल परगना में यह प्रयोग दोहराया जा रहा है।

(लेखक बिहार विधान परिषद के पूर्व सदस्य हैं)

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CUET: Is it really needed?

Should India, a country with so much diversity and disparities among its people, conduct admissions to programmes in its Central universities based on a single admission test? It is a question that calls for a larger debate, but the present mess regarding the Central University Entrance Test (CUET) is unacceptable.

Several students who took the fourth phase of the examination for admission to undergraduate courses held on Wednesday had to go home without completing it owing to technical glitches and server problems. The National Testing Agency (NTA) which is mandated to conduct the test promptly cancelled it and the University Grants Commission has offered all the affected candidates the chance to take a retest. With this, it is doubtful if the NTA will be able to meet the extended deadline of August 30 to conclude the entrance examinations. The NTA had earlier cancelled the second phase of the test which was also marred by glitches.

Neither the government nor the UGC has explained the urgency in going in for a national entrance test before thinking through the idea and putting in place the necessary mechanism. This cavalier attitude is putting the students through immeasurable agony and inconvenience. Ironically, one of the arguments the government had advanced in support of the single test was that it will spare the students of the need to write multiple tests.

It is not just the university entrance test where lack of preparedness and robust mechanism has failed its customers. The income tax payers have been complaining for several years about the online portal for filing returns. It has been five years since the Goods and Services Tax regime has been in place but its information technology backbone is still not fool-proof.

India boasts of being the IT hub of the world but critical failures in government services continue to make life miserable for the people. The government must take it seriously and ensure that the agencies concerned take adequate precautions so that the failure saga is not repeated next time around.

AA/19/5



TARIQ MANSOOR

Strides in the Gulf

India has strengthened relations with countries in the region. AMU has played a role

ON JULY 10, this newspaper published a report ('AMU seeks Centre's nod to confer degree on Saudi prince Mohammad Bin Salman', *IE*) about the Aligarh Muslim University's (AMU) proposal to confer an honorary Doctor of Letters (D.Litt) degree on the crown prince of Saudi Arabia, Mohammad Bin Salman for his exemplary services to global affairs, and to augment India's efforts to forge deeper links with the Gulf region.

A few weeks ago, Prime Minister Narendra Modi, in his first overseas visit after completing eight years in office, visited the United Arab Emirates (UAE) to offer condolences on the demise of Sheikh Khalifa bin Zayed Al Nahyan, the former UAE President.

Earlier, speaking at the centenary celebrations programme of AMU in December 2020, PM Modi exhorted the AMU community to further invigorate India's relations with the Islamic world. He said, "In the last 100 years, AMU has worked to strengthen India's relations with many countries of the world. The research done here on Urdu, Arabic and Persian languages, on Islamic literature, gives new energy to India's cultural relations with the entire Islamic world."

These developments have prompted me to analyse India's blossoming relations with countries of the Gulf region through a contemporary lens, and review AMU's role in

strengthening India's links with the region.

PM Modi has surpassed all his predecessors in investing more energy and resources in cultivating ties with the Gulf countries. His efforts stand out on five counts. First, he has put his personal imprint on efforts to improve relations with the region through more than a dozen visits so far. Second, by substantially expanding India's canvas of engagement — from simple trade-economic-energy relations to strategic relations in the spheres of space technology, defence, counter-terrorism and cyber-security — India's stake in the security and stability of the region has risen. Third is the cultivation of relationships with the region across binaries vis-à-vis Israel. A testament to this is that while India's ties with Israel have been on the ascent, PM Modi became the first Indian PM to visit Palestine and receive its highest civilian award in recognition of his "contribution to promote relations between India and Palestine". Fourth, with the void created by the gradual downsizing of the role of the US in the region, India, for the first time, is being seen as a credible player with a role in the promotion of regional peace and security in the region. The statement of the Prime Minister of Palestine in November 2021, seeking India's "well-established and distinguished" role in the region, demonstrates this. For a Muslim minority India to

be seen as an effective interlocutor in a conservative Muslim region heralds a transformation in the outlook of these countries towards India. Fifth, India's greater impetus to viewing the Gulf countries as its "maritime neighbours", has led to the recasting of India's neighbourhood policy in two ways — "sea" is as important a variable as "land" in as much as "shared values" are as important as "geographical proximity" for a neighbour.

Historically, the AMU has played an important role in augmenting India's quest for fostering closer ties with the Arab and Islamic world. The extensive network of AMU alumni in every Gulf country, especially in Saudi Arabia and the UAE, has over the years successfully leveraged AMU's "soft power dividend" in bolstering people-to-people contact. In 2018, when I visited Jubail in Saudi Arabia for an alumni meet, a Saudi national who had graduated from AMU pleasantly surprised me by saying that she intended to name her child "Aligarh" out of affection for AMU.

The prominence and goodwill of AMU has been duly recognised by the political leadership of the Arab and Islamic world. In 1975, Sheikh Zayed bin Sultan Al Nahyan, the first President and founder of the UAE, on his presidential visit to India visited AMU and gave a generous grant for establishing the department of petroleum studies in the university. Over the years, AMU has conferred

honorary D.Litt degrees on King Saud bin Abdulaziz (King of Saudi Arabia) in 1955, Obaid bin Saif Al-Nasser (UAE Petroleum Minister) in 1999, Reza Shah Pahlavi (Shah of Iran) in 1956 and Gamal Abdel Nasser (President of Egypt) in 1960, besides heads of states from Malaysia, the Maldives, Afghanistan, Mauritius, Nigeria, Morocco and Sudan.

Internationalisation of education is a key goal of the National Education Policy (NEP) 2020, as affirmed in the recently concluded Akhil Bharatiya Shiksha Samagam. AMU will strive to play a key role by exploring collaborations with the institutions of the Gulf countries in the frontier areas of innovation, start-ups and entrepreneurship, besides in the classical languages of Urdu, Arabic, Persian and Hindi. The strong Indian diaspora in the Gulf is uniquely placed to vigorously promote Indian higher education institutions in the Gulf as part of the internationalisation of education under NEP.

For its trans-national significance, AMU is recognised as an Institution of National Importance under the Constitution of India. AMU remains committed to strengthening the efforts of PM Modi as India strides forward in the Arab-Gulf world.

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How to promote information processing by students

The 5 strategies for better student engagement are - visuals, simple language, procedures, analogies, and organised content

Effective student engagement and classroom management are two important pedagogical strategies that teachers learn about in teacher education programmes. With technological advances, there are innumerable new ways of keeping students engaged.

By sticking to basics, five fundamental strategies are seen that reduce the sensory and cognitive loads on students to promote better processing of instructions and information. Any teacher can use these strategies to retain the attention of students.

According to the Information Processing Theory, during the learning experience in the classroom, first, students receive information through their senses by listening, seeing



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information visually on the screen or board or through the teacher's gestures and demonstrations and when hands-on experiences are used through other senses.

Secondly, all this information is being processed mentally by students: What does this word mean? What should I do next? What should I remember? How do these items connect? Finally, when students have processed and made sense of the information, with repeated recall and practice, some of it may get stored in the long-term memory.

Thus, these aspects are key to student attention; students first receive information through their senses; if there is too much sensory information coming in at the same time, some of it may be lost because it is too much for

the brain to attend to at the same time; students then process this information taken in through the senses using the short-term memory or working memory in their brains.

Students make sense of the information by decode it, make connections, decide what is important, etc. Here too, there is a limit to how much information can be processed at one time, which is called cognitive load. Both sensory and cognitive overload can have negative effects on students' attention and engagement.

Therefore, teachers should recognise that sensory and cognitive overload is undesirable and should incorporate strategies that reduce the load on students.

Broadly, there could be five strategies that can reduce sensory

and cognitive overload for students.

Visuals: Never underestimate the power of a good visual in such classroom instructions such as a digital presentation, a chart or well-structured board work. Visuals that organise the most important instructions or information can reduce cognitive load on the brain by making it available for students instead of requiring them to hold all of it in their minds, i.e., use their working memory. Reading about design principles beyond just the educational field - for example gestalt principles, colour, and sizing - can be very helpful in creating visual aids that promote student engagement.

Simple and Concise Language: Planning instructions and the specific language can reduce

cognitive load for students. This ensures that student attention is focused on the learning instead of all of it being exhausted on trying to understand complicated instructions. Teachers should keep their sentences simple and concise when giving out instructions and avoid sharing too many instructions in one go. Thinking about which specific terms you will use beforehand and using the same terms consistently help reduce cognitive load.

Routines and procedures: Having regularly used routines or 'classroom protocols' in place of things like getting into groups, taking resources out, doing classwork, etc., is another teacher strategy for reducing cognitive load. Teachers can get students to understand what needs to be

done just by using a single sentence or routine name. This means that students are listening to fewer instructions and using less cognitive load to understand the instructions leaving more for attending to the learning that is happening. **Analogies:** Using analogies to explain new content aids information processing because students can attach the explanation to a model that they are familiar with instead of trying to make a sense of something that is completely new. Using analogies or even prior knowledge to make connections to something that students already know leads to greater storage of information in the brain with less cognitive load.

Organising content: The way we organise information can impact cognitive load and there-

fore engagement. Chunking content into logically arranged sections when presenting with clear titles is much better for cognitive processing than presenting it as one giant paragraph. This can be further extended by providing students with graphic organisers to help organise and process the content.

The strategies listed above are all focused on reducing sensory and cognitive load to aid attention and engagement. There are many other great teacher strategies that increase student attention by using emotional engagement strategies like using stories as a hook, asking questions to keep students actively engaged, providing opportunities for students to work with peers and signing content to areas of interest for students. P-7/P-11

विकास के वाहक बनें उच्च शिक्षण संस्थान

विकसित देश हों या विकासशील, वहाँ के विश्वविद्यालय और उच्च शिक्षण संस्थान कई तरह की भूमिका निभाते हैं। वे न केवल डिग्री और शिक्षा देने का काम करते हैं, बल्कि उस देश की आँखें भी होते हैं। ये आँखें यह देख सकती हैं कि उस देश में विकास कैसे हो रहा है? उसकी गति क्या है? उसका समाज पर क्या प्रभाव पड़ रहा है? इस प्रकार ये देशों में चल रही विकास प्रक्रियाओं में सहभागी तो होते ही हैं, उनका अध्ययन, मूल्यांकन भी करते हैं और उन्हें अधिक प्रभावी बनाने के लिए सरकार को सुझाव भी देते हैं। भारत में भी कुछ विश्वविद्यालय एवं शोध संस्थाएँ ऐसा काम करती रही हैं, किंतु यहाँ ऐसा काम कम होता है। भारत में सरकारों द्वारा चलाई जा रही विकास योजनाएँ एवं उनके कार्यान्वयन और हमारी शिक्षा एवं शोध की दुनिया के बीच एक बड़ा अंतर रहा है। यहाँ विकास कार्य सरकारों का काम माना जाता रहा है एवं शिक्षण संस्थानों का काम शिक्षा देना एवं पढ़ना-पढ़ाना। शोध की भूमिका इस पूरी प्रक्रिया में गौण ही रही है, लेकिन यह स्थिति ठीक नहीं है। इसमें बदलाव की महती जरूरत है।

वैसे तो हमारे देश में अनेक शोध एवं उच्च शिक्षण संस्थान हैं। वे अच्छा काम भी कर रहे हैं। चूंकि भारत एक विशाल देश है और यहाँ बड़े स्तर पर विकास कार्य चलाए जा रहे हैं, लिहाजा कुछ शोध संस्थाओं के सक्रिय होने से काम नहीं चलेगा। इसी वजह से विकास परियोजनाओं का दस्तावेजीकरण एवं इन पर शोध-अध्ययन संभव नहीं हो पा रहा है। 1990 के बाद नवउदारवादी अर्थव्यवस्था के लागू होने के बाद भारतीय समाज में हुए परिवर्तनों का हमारे पास कोई सम्यक लेखा-जोखा नहीं है। 2014 के बाद 'आकांक्षी भारत' किस तरह विकास की गति से जुड़ा और क्या पाने की आकांक्षा लोगों के मन में सृजित की, इन सब पर जितना अध्ययन और शोध होना चाहिए, उतना नहीं हो पा रहा है। जैसे कि विकास योजनाओं के लाभार्थी कौन हैं? योजनाएँ किस रूप में किस-किस तक पहुंच पा रही हैं? इसका कोई व्यवस्थित शोधपरक आकलन हमारे पास नहीं है। हाल में प्रधानमंत्री नरेन्द्र मोदी ने भी विकास की इस गति को समझने का आग्रह किया।

कुछ दिनों पहले यह खबर आई थी कि भारत सरकार का शिक्षा विभाग विकास कार्य एवं गवर्नेंस



▲ वद्री नारायण

**उच्च शिक्षण संस्थान
भारत की विकास
प्रक्रिया को समझने
का काम कर सकें
तो देश में विकास को
नई दिशा मिलेगी**



उपयोगी सिद्ध होंगे शोध-अनुसंधान से निकले सुझाव। एकाग्रता की रूपरेखा के इर्द-गिर्द ज्ञान सृजन-संरक्षण की एक महत्वाकांक्षी परियोजना पर काम करने जा रहा है। इसके तहत देश के अनेक केंद्रीय विश्वविद्यालय, आइआइटी, आइआइएम एवं शोध संस्थान मिलकर भारत सरकार के विभिन्न विभागों द्वारा चलाई जा रही विकास परियोजनाओं की समीक्षा एवं उनके सामाजिक प्रभावों का मूल्यांकन करेंगे। आंकड़ों पर आधारित ये शोध मूल्यांकन मिलकर विकास, क्षमता निर्माण, संस्कृति, खेल, सुरक्षा, गरीब कल्याण, किसान कल्याण पर केंद्रित ज्ञान कोशों की रचना करेंगे। इन ज्ञान कोशों से निकले सुझावों का उपयोग सरकार के विभिन्न विभाग तो करेंगे ही, साथ ही इनका उपयोग शिक्षण एवं प्रशिक्षण में भी हो सकेगा। इस प्रक्रिया में हमारे उच्च शिक्षण संस्थान भारत में विकास एवं उन्नति के 'थिंक टैंक' के रूप में स्थापित हो सकेंगे। नए भारत की रूपरेखा बनाने में भी उच्च शिक्षण संस्थानों की भूमिका को यह अभियान और महत्वपूर्ण बनाएगा। बौद्धिक विरासत मिशन का यह अभियान शिक्षण संस्थानों एवं शिक्षा मंत्रालय के बीच रिश्ते को मजबूती देगा, क्योंकि विद्या एवं ज्ञान की

विरासत सबसे ज्यादा प्रभावी होती है।

अभी तक इस संदर्भ में जो चर्चाएं हैं, उनके अनुसार केंद्रीय शिक्षा मंत्री धर्मेंद्र प्रधान के नेतृत्व में शिक्षा मंत्रालय इस मिशन में देश की सभी शिक्षण संस्थाओं को जोड़ने में संलग्न है। इस परियोजना में विषयों और क्षेत्रों के आधार पर अनेक क्लस्टर बनाए गए हैं। विज्ञान, कला-संस्कृति, तकनीकी, प्रबंधन आदि क्षेत्रों से जुड़े अनेक विद्वानों को इस मिशन में जोड़ने का प्रयास चल रहा है। इस प्रकार यह भारत में ज्ञान एवं विद्या की एक नई विरासत सृजित करने की परियोजना है, जिसमें सरकार द्वारा संचालित विकास एवं राष्ट्र निर्माण की प्रक्रियाओं को केंद्र में रखकर शोध, अध्ययन एवं दस्तावेजीकरण करने पर बल होगा। सरकार एवं उच्च शिक्षण संस्थानों के बीच संवाद से नीतियां बनाने एवं उन्हें कार्यान्वित करने में मदद तो मिलेगी ही, साथ ही ज्ञान एवं विद्या के इतने विस्तृत एवं शक्तिवान स्रोत का उपयोग देश के विकास अभियान में भी हो सकेगा। वैसे भी नए भारत के निर्माण के प्रयासों एवं उद्यमों को एक सम्यक आधार देने के लिए 'थिंक टैंक्स' की जरूरत है। विकास एवं आर्थिक प्रक्रियाएँ दृष्टि, दर्शन तथा सुझावों से और ज्यादा प्रभावी एवं प्रखर हो जाती हैं।

यदि भारत की विकास प्रक्रिया को समाज के निचले स्तर तक पहुंचाने की गति को समझने का काम विश्वविद्यालय एवं अन्य उच्च शिक्षण संस्थान कर सकेंगे तो भारत में विकास को नई दिशा मिल सकेगी। कुल मिलाकर ज्ञान की विरासत अन्य दूसरी चीजों से कहीं ज्यादा महत्वपूर्ण होती है। अगर यह बन जाए तो देश के युवाओं की मानसिकता निर्माण में इसकी महती भूमिका होगी। अपने-अपने क्षेत्रों में बने ये शिक्षण संस्थान अगर अपने आस-पास के विकास की भी निगरानी कर सकें तो देश भर में विकास की प्रक्रिया को संतुलित एवं सार्थक बनाने में बड़ी भूमिका निभा पाएंगे। विकास की प्रक्रिया एवं ज्ञान सृजन के इस जुड़ाव से दिल्लों से चलने वाला 'एक रुपया' अंतिम छोर तक एक रुपये के रूप में तो पहुंचेगा ही, साथ ही यह एक रुपया अपने मूल्य से कई गुना अधिक परिणाम दे पाएगा।

(लेखक जीवी पंत समाज विज्ञान संस्थान, प्यागराज के निदेशक हैं।)

Animal husbandry

The College of Veterinary Science, Khanapara under the Assam Agricultural University has stepped into its platinum jubilee year. Established in 1948, the college is set to complete 75 years and this shows that the government had way back then acknowledged the importance of veterinary education. While the college has certainly done a good job in producing veterinarians and helping the cause of animal welfare, a clear lack of focus by successive governments has prevented the realisation of the immense potential of the animal husbandry sector in the State. Veterinary education is linked to entrepreneurship as well and with adequate thrust on this aspect, we could have witnessed a boom in spheres such as dairy, poultry, piggery, pisciculture, etc., by now. Indeed, notwithstanding the oft-repeated government rhetoric about its thrust on developing the animal husbandry sector, the ground reality belies any sincere effort towards tapping the potential of the livestock and poultry sector. This sector is among the biggest livelihood providers, with lakhs of families directly dependent on these activities. In recent times many educated youths have taken to animal husbandry, which in turn has triggered a surge in entrepreneurship. The rural economy in particular has been driven to a large extent by the livestock and poultry sector. The government's lack of clear focus in tapping the huge potential offered by the sector is borne out by the fact that not enough veterinarians are there in the field to cater to the needs of livestock entrepreneurs. With the sector hit hard by the African swine fever and bird flu in recent years, it was all the more imperative that the State had veterinarians in adequate numbers. This also shows we urgently need scientific methods of animal raising and veterinary care. This dearth of manpower has also adversely impacted timely interventions reaching the needy pig and poultry farmers in their times of distress. Many of the farmers are not in the organised sector and their lack of access to proper information and scientific interventions has been a major factor hindering the growth of the sector.

As for the veterinary college, recent years have witnessed a transition of sorts in every sphere of education and veterinary education, too, cannot stay insulated against the transformations taking shape outside. There have been new scientific and technological breakthroughs in the domains of science education in particular and it is the duty of those imparting science education to keep themselves abreast of the changes and ensure that the evolving process of learning is maintained. Merely resting on the laurels of 75 years will be self-defeating in such a situation. The government, too, has to assist the process of required technological upgrading of the college as warranted by the changing times. It should also be ensured that the fruits of veterinary education successfully percolate down to the grassroots livestock farmers besides helping the growth of entrepreneurship centring around animal husbandry.

AS/20/24

Building gender parity through co-ed schools

Child rights body in Kerala pushes for purely co-ed schools. It is a positive step towards a healthy, safe society

MATHEW C NINAN

In a landmark order, the Kerala State Commission for Protection of Child Rights has directed the state government that there should only be co-education institutions in the southern state from the academic year 2023-24.

The order, expectedly, has triggered a debate on the relative merits of co-education (CE) schools *vis a vis* single-gender (SG) schools. It is a fact that boys-only and girls-only schools have existed in all parts of our country for many years. In many cities, we can see convent-run girls' schools and parish-run boys' schools in separate campuses. We see such schools administered by other communities too. There are government-run schools too for boys and girls separately in many places.

Times, and mindsets, have changed now. Many single-gender schools and colleges are becoming co-ed. A Jesuit-run premier men's college in Mangalore where I taught for a few years, not only turned co-ed, but also has more girls now. The college has gained in its academic achievements after turning co-ed. Similarly, a women's college in the same city, one of the first such in the country, is now considering turning co-ed in a phased manner. This trend is fast spreading across the country. It augurs well for education in general that century-old colleges are now thinking anew.

The Kerala initiative, therefore, is not entirely without a favourable context. The Child Rights' body asked the various others responsible for school education like the Department of Education and SCERT to draw up an action plan to implement the order. How soon this will happen is anybody's guess, but it has definitely set the ball rolling. Other States too have started thinking on similar lines. Chances are that it will gain momentum, sooner than later.

Society has enough dividers – religion, caste, language, region, economic status etc – to segregate and separate us. Do we need a gender-based division in schools too? One of the aims of education is to erase all irrational differences and distinctions and see all humanity as one entity.

Education becomes more meaningful when it acts as a melting pot and creates an urban society. Besides, nature, after all, has programmed both genders to co-exist to make a society.

The proponents of SG schools, which include

teachers and parents, argue that children perform better academically and participate in all activities without inhibition or fear in single-gender schools; boys study well without distractions. The obvious line of thinking is that the other gender is a distraction. These are not entirely baseless arguments, but we must see the larger picture and weigh its pros and cons at a deeper level. Education is not only about marks and grades.

We ought to respect nature and its ways. Nature makes no boundaries and has no regard for man-made distinctions. Boys and girls need to grow up together. Inclusiveness is natural and spontaneous, while exclusiveness is contrived and manipulated. Distancing generates indifference and otherness.

Those rooting for CE Schools believe that a school is a microcosm of society. Boys and girls are an integral part of it. Growing up and learning together, they imbibe important values of respecting each other, equality and socialisation. That will prepare them for the real world. Teachers, and parents, have an important role to play. School is the ideal place to inculcate values of tolerance, respect, co-existence and healthy competition. Stereotyping of gender roles must stop. Girls can be as brave and intelligent as boys, if not more. Girls will blossom as well as boys in a CE environment, under the tutelage of good mentors. As elders, our responsibility is to guide them in a sensible and unobtrusive manner.

This brings us to another issue of cardinal importance, especially in a CE school – a good, school-based sex education curriculum, encompassing multiple issues related to human growth and development. In addition to basic facts about puberty, sex and reproduction, lessons can cover topics such as relationships, body image, sexual violence, sexual orientation and gender identity.

Research shows that comprehensive, culturally responsive and inclusive sex education programmes help young people develop healthy relationships.

More openness is required; secrecy and mystery provoke irresponsible behaviour among the young. We have to demystify the subject of sex to enable children to have a mature view of all matters related to gender and sex.

Schools must rise above being mere passive purveyors of knowledge and become active life skills training grounds where healthy citizens are formed. Throughout history, places of education have reflected the communities they served. It's time to shatter these constraints. The time has come for schools to hold a mirror to society.

(The writer is Director Little Rock, Brahmavar, Udupi)

20/8/22

CUET is not KBC

Vice-chancellors, teachers and students must come together, and say 'no' to the multiple choice question format



AVIJIT PATHAK

AT A TIME when the obsession with the "fact-centric/objective" questions (popularly known as Multiple Choice Questions or MCQs) has crippled the pedagogic and creative imagination of the techno-managers who run the University Grants Commission (UGC), Jawaharlal Nehru University (JNU) Vice-Chancellor Shantishree Dhulipudi Pandit's discomfort with the format of the Common University Entrance Test (CUET) for the admission in post-graduate courses appears to be a refreshing departure. While speaking at an Idea Exchange with the *Indian Express*, she articulated her anguish and apprehension. The implementation of the MCQ pattern of uniform/standardised tests, as she feared, could prove to be "disastrous". In the absence of "qualitative testing", as she thought, one's cognitive and analytical ability cannot be judged.

As a teacher, I appreciate Pandit's concern and her courage to differ, particularly when a sense of fatalism characterises our campuses, and most of our academic bureaucrats and even teachers prefer to remain "safe" and silent. However, I am not very sure whether the UGC Chairperson Professor Mamidala Jagadesh Kumar — not particularly known for his democratic and dialogic spirit, or creative imagination — would dare to be self-critical, and accept the limitations of this sort of mechanised/standardised test for selecting young minds who need to think, reflect, imagine, go deeper into the realm of ideas, and realise that the philosophical/epistemological debate is not like Amitabh Bachchan's *Kaun Banega Crorepati* contest: Every question must have one and only one "correct" answer! Furthermore, it has to be seen whether Pandit is really ready to continue this struggle for recovering the spirit of higher education, invite her colleagues and students, work together, and resist this onslaught on higher education.

In fact, in order to evolve a critique of the CUET — a homogenised/standardised "objective" test — it is important to understand three things. First, it is difficult to save our universities if we destroy the entire culture of learning that tends to characterise our school education today. We need not be fooled by the celebration of inflated marks (100/100 in English or History). As purely instrumental and strategic learning (memorising the "right" answer with two/four quick points) becomes the order of the day, and all sorts of "guide books" colonise the minds of the young learners, the damage has already been done. The faculty of thinking, the ability to engage in a nuanced debate, the willingness to read great books outside the "official syllabus", and the creative use of language to explain and interpret complex phenomena: All these skills of deep learning are systematically destroyed.

Even if these students crack unimaginative standardised tests, or become technicians of diverse varieties, it is difficult for

them to pursue what higher education, be it in physics or literature, demands. The irony is that the format of the CUET — yet, another reflection of the intellectual poverty of the National Testing Agency — would further accelerate this trend: Go to coaching centres, read "success manuals", and master the strategy of "time management" while ticking the "correct" answer in the OMR sheet. While this kind of computerised testing can quickly and instantly eliminate people, it cannot, however, assure that it can really choose those who are genuinely inclined to higher education.

Second, it is high time we began to debunk what has become a disease — the normalisation of the MCQ. And in this context, I would particularly refer to liberal arts, humanities and social sciences. Anyone who has cherished the spirit of engaged pedagogy and interpretative traditions in humanities and social sciences would agree that, for instance, Vincent van Gogh's 'sunset' has multiple meanings and interpretations; or, there is no "objective/correct" reading of Mohandas Karamchand Gandhi; you cannot say that as far as the understanding of Gandhi is concerned, B R Ambedkar is right, and Rajmohan Gandhi is wrong, or vice versa. Likewise, it would be naïve to say that there is only one reading of Karl Marx. Isn't it true that Erich Fromm's engagement with Karl Marx was different from the way Louis Althusser looked at him? In fact, you cannot celebrate the beauty of humanities and social sciences without this receptivity, and openness to a plurality of interpretations. And the MCQ pattern of standardised tests (say, asking one to memorise just discrete "facts", such as the year of publication of *My Experiments with Truth*, or the definition of "altruistic suicide" that the great sociologist Emile Durkheim talked about; or whether William Blake was a "romantic" poet) can by no means evaluate whether one has really the analytical and hermeneutic skills to decipher the meanings of great social science texts.

Third, there are limits to uniformity and homogeneity. A university has its own soul and distinctiveness. And why should it be deprived of evolving its own mode of selecting students and researchers? These days, as we are normalising the practice of bureaucratisation and standardisation and the National Testing Agency is allowed to rob the creative agency of the teaching community, it will become increasingly difficult to retain the tradition of qualitative learning. Imagine a professor of political sociology asking this question: Does the text *The Authoritarian Personality* written by Theodor W Adorno and others have some relevance in contemporary India? Neither the academic bureaucrats who run the UGC nor the technicians of the National Testing Agency will be able to understand the pedagogic imagination of the professor. Kill creativity, kill reflexivity, kill the power of thinking — this is the madness called CUET.

Can vice-chancellors, teachers and students come together, and say "no" to this madness?

Pathak, a retired JNU professor, writes on
IE/20/23 culture and education

A market for English

With our many training institutions, we became very resourceful in the area of English language teaching. India is, at present, better equipped to appreciate the language needs of multilingual societies like Mauritius or Nigeria. The country has the experience, expertise and environment that can make it an ideal guide in running ELT programmes in different countries



The politics of English teaching in India has been perennially governed by wrong-headed postcolonialism totally at odds with global trends in learning and professional aspirations.

Those who spout their disdain for Anglicism and suffer from the delusion that English has caused a great loss to India also worsen the situation. All the cynical forces may be shown the door with the idea that it is high time India can aspire to earn foreign exchange through English teaching.

Confused? Noted linguist David Crystal recently expressed his confidence that India can lead in becoming a better teacher of English to people whose mother tongue is not English because it has a cultural connection with Britain.

Learning and teaching of English language in India started nearly 250 years ago. Some of the commonly accepted approaches to English Language Teaching (ELT) were tried and tested in our country.

It was Michael West who did some pioneering work in the areas of simplified readers and other texts written within the basic list of 3,000 to 5,000 words for elementary readers. Several schools, colleges and universities were opened with English in the curriculum.

With a larger number of English training institutions, we became very resourceful in the area of English language teaching. India is, at present, better equipped to appreciate the language needs of multilingual societies like Mauritius or Nigeria.

The country has the experience, expertise and environment that can make it an ideal guide in running ELT programmes in different countries. The need of the hour is to speed up educational contacts with other countries, especially Afro-Asian countries. This can earn foreign exchange for our country.

Admittedly, the global demand for English is continuing to grow. The developing countries, in particular, are recording the importance of English for their developmental and societal needs. Individuals, too, find it proper to make it a tool that can

help them to fulfil their personal aspirations at a time when globalization is the buzzword.

A study of the economic aspects of learning English in developing countries reveals that language can increase the earning power of individuals by 20 per cent and that developmental economies need access to English if they are to grow and position themselves in the global economy.

The report from Euronitor, a leading research organization commissioned from the British Council which gathered data from five target countries - Nigeria, Bangladesh, Pakistan, Cameroon and Rwanda - shows that the benefits of English are seen predominantly by urban elites, who have access to better standards of teaching mostly delivered through private education. It is felt that they are required to do much to bridge the gap between urban elites and the rural population.

In Francophone Cameroon, the secondary school students have little interest in English. The case for English for development is a compelling one and efforts are on to convince students on this line. English as a medium of instruction in schools is being advocated in Ethiopia to perceive the language in a positive light.

As second and third generation Eritreans are born and brought up abroad, English plays an important role as the language of communication between the diaspora and their families still in Eritrea.

The socio-economic background of children in Indonesia has a massive impact on their urge to learn English. Those from the aspirational middle class try their best to improve their English. Huge numbers of migrant workers from Indonesia go to Saudi Arabia, Kuwait, Hongkong and elsewhere and they frequently experience difficulties while they are abroad. They generally have language training before leaving their country.

English in Sri Lanka, after the end of the conflict in the North and East of the country, has a special role to play. Government troops did not speak Tamil; refugees did not speak Sinhalese; workers spoke neither of them.

So, English became their language of communication. STEPS (Skill through English for Public Servants) began as a project which aimed at encouraging communication between civil servants and the public, NGOs, international humanitarian workers and the government,



A K GHOSH
The writer, a former Associate Professor, Department of English, Gurudas College, Kolkata, is presently with Rabindra Bharati University

which not only teaches English but integrates this with the development of skills needed for regulations. In the Democratic Republic of Congo, there is a case for English language teaching as a component in a broader mother tongue-based education system. There is a large English language teaching project in Bangladesh to identify the importance of the language for international development. They are to see how competence in English can be equated with economic and social development.

The same ideology is identified in many of the countries in Africa. Having access to a global language such as English is a political imperative. In rural and urban schools in Uganda, parents hold somewhat ambiguous attitudes towards English.

Both groups are concerned that their children should be exposed to an international language, particularly English, in order to catch up in this fast-moving world. Parents in Uganda believe that in a country with multiple languages but no national language, English plays a crucially important integrative role.

In China, the number of bilingual speakers (English and Mandarin) has increased. With the increasingly important role of English in economic development, it is common to see English being used as a medium of instruction in many non-native

English-speaking contexts where the majority of the population speak a local language. As such the most important question is how children acquire knowledge in a multilingual context.

In response to the widespread view of English as a language of opportunity and economic growth, Columbia and many other so-called developing countries have witnessed an exceptional promotion of English through different sorts of education policies.

At this opportune moment, it is for India to rise to the occasion. The Association of Indian Universities (AIU) can take the responsibility of identifying the needs of clients in other countries and resources available at different Indian universities to fulfil these needs.

It may be a good idea for Indian embassies abroad, especially in Afro-Asian countries to have educational representatives assessing needs and marketing Indian resources in ELT.

For their English as a Foreign Language (EFL) programmes, many Afro-Asian countries may prefer Indian to British or American expertise, as our country has proven expertise in learning and teaching EFL in a multilingual setting.

English for engineers, business personnel, housewives and general graduate students are currently used as parts of the ELT programme in India.

There are institutions which have specialized in production of audio-visual materials and distance learning in language training. Many Third World countries may be benefited in their ELT programmes from Indian sources.

Besides being of a comparable quality, the Indian package may be inexpensive. A good amount of foreign money may be had from the international ELT market. Our institutions will have to come up with course modules of varying types to suit the needs of the customer.

However, our attitude to the acceptability of the English language will also have to change. When a language is as widely as English, it inevitably develops many registers, styles, genres and norms. A rigid standard may stifle opportunities of creative use and learning.

Can dodgy medical research be spotted?

LISA BERO

If you are suffering with chronic pain, diabetes, heart problems or any other condition, you want to be confident that your doctor will offer you an effective treatment. You certainly don't want to waste time or money on something that won't work or take something that could do you harm.

The best source of information to guide treatment is medical research. But how do you know when that information is reliable and evidence-based? And how can you tell the difference between shoddy research findings and those that have merit?

There's a long journey to the publication of research findings. Scientists design experiments and studies to investigate questions about treatment or prevention and follow certain scientific principles and standards. Then the finding is submitted for publication in a research journal. Editors and other people in the researchers' field, called peer-reviewers, make suggestions to improve the research. When the study is deemed acceptable, it is published as a research journal article.

But a lot can go wrong on this long journey that could make a research journal article unreliable. And peer review is not designed to catch fake or misleading data. Unreliable scientific studies can be hard to spot – whether by reviewers or the general public – but by asking the right questions, it can be done.

While most research has been conducted according to rigorous standards, studies with fake or fatally flawed findings are sometimes published in the scientific literature. It is hard to get

an exact estimate of the number of fraudulent studies because the scientific publication process catches some of them before they are published. One study of 526 patient trials in anaesthesiology found that 8 per cent had fake data and 26 per cent were critically flawed.

As a professor in medicine and public health, I have been studying bias in the design, conduct and publication of scientific research for 30 years. I've been developing ways to prevent and detect research integrity problems so the best possible evidence can be synthesized and used for decisions about health. Sleuthing out data that cannot be trusted, whether this is due to intentional fraud or just bad research practices, is key to using the most reliable evidence for decisions.

The most reliable evidence of all comes when researchers pull the results of several studies together in what is known as a systematic review. Researchers who conduct systematic reviews identify, evaluate and summarize all studies on a particular topic. They not only sift through and combine results on perhaps tens of thousands of patients, but can use an extra filter to catch potentially fraudulent studies and ensure they do not feed into recommendations. This means that the more rigorous studies have the most weight in a systematic review and bad studies are excluded based on strict inclusion and exclusion criteria that are applied by the reviewers.

To better understand how systematic reviewers and other researchers can identify unreliable studies, my research team interviewed a group of 30 international experts from 12 countries. They explained to us that a shoddy



dy study can be hard to detect because, as one expert explained, it is "designed to pass muster on first glance."

As our recently published study reports, some studies look like their data has been massaged, some studies are not as well designed as they claim to be, and some may even be completely fabricated.

Our study provides some important ideas about how to spot medical research that is deeply flawed or fake and should not be trusted.

The experts we interviewed suggested some key questions that reviewers should ask about a study: For instance, did it have ethics approval? Was the clinical trial registered? Do the results seem plausible? Was the study funded by an independent source and not the company whose product is being tested?

If the answers to any of these questions is no, then further investigation of the study is needed.

In particular, my colleagues and I found that it's possible for researchers who review and synthesize evidence to create a checklist of warning signs.

These signs don't categorically prove that research is fraudulent, but they do show researchers as well as the general public which studies need to be looked at more carefully. We used these warning signs to create a screening tool – a set of questions to ask about how a study is done and reported – that provide clues about whether a study is real or not. Signs include important information that's missing, like details of ethical approval or where the study was carried out, and data that seems too good to be true. One example might be if the number of patients in a study exceeds the number of people with the disease in the whole country.

It's important to note that our new study does not mean all research can't be trusted.

The Covid-19 pandemic offers examples of how systematic review ultimately filtered out fake research that had been published in the medical literature and disseminated by the media. Early in the pandemic, when the pace of medical research was accelerating, robust and well-run patient trials – and the systematic reviews that

followed – helped the public learn which interventions work well and which were not supported by science.

For example, ivermectin, an antiparasitic drug that is typically used in veterinary medicine and that was promoted by some without evidence as a treatment for Covid-19, was widely embraced in some parts of the world. However, after ruling out fake or flawed studies, a systematic review of research on ivermectin found that it had "no beneficial effects for people with Covid-19."

On the other hand, a systematic review of corticosteroid drugs like dexamethasone found that the drugs help prevent death when used as a treatment for Covid-19.

There are efforts underway across the globe to ensure that the highest standards of medical research are upheld. Research funders are asking scientists to publish all of their data so it can be fully scrutinized, and medical journals that publish new studies are beginning to screen for suspect data. But everyone involved in research – funding, production and publication – should be aware that fake data and studies are out there.

The screening tool proposed in our new research is designed for systematic reviewers of scientific studies, so a certain level of expertise is needed to apply it. However, using some of the questions from the tool, both researchers and the general public can be better equipped to read about the latest research with an informed and critical eye.

'No opposition to medium issue from stakeholders'

Face to Face

Prasanta J Baruah

Prof (Dr) Nani Gopal Mahanta, Professor and former Head of the Department, Political Science and Director (Hon.), Centre for South East Asia, Gauhati University. He is presently on deputation to the Govt. of Assam as the Education Adviser. An alumnus of JNU, Mahanta was a Rotary World Peace Fellow in University of California, Berkeley from 2002-2004. His two books "Confronting the State: ULFA's quest for Sovereignty" and "Citizenship Debate over NRC & CAA" are published by International Publishing Agency SAGE.



There is a strong opposition to the State government's decision to teach Science and Mathematics in English medium from Class III in vernacular medium schools in the State. What is the government's stand?

With all humility I must say the opposition mostly comes from students union and various Sahitya Sabhas. We do not see any opposition from the stakeholders of the educational system i.e. the parents, guardians, and teachers. On the contrary, the Chief Minister has conducted several interactive sessions with school teachers who argued that now teachers would get an opportunity to compete with the private schools.

Similarly, there is apprehension that replacing Social Studies with History and Geography will deprive students of many aspects of study like Political Science, environment, etc.

There was a long demand from civil society for introducing History and Geography for the students of Assam. The Govt. intends to introduce portions of Assam History and

Geography into the syllabi so that our progeny gets some inkling about the society they live in. I don't think that topics of political science, environment etc. will be deleted. The essential portions of Political Science can be accommodated in History. Portions of Economics and Environment may be included in the subject of Geography. It may be mentioned that previously there was a subject called Civics and Economics where portions of History, Economics and Political Science were included.

The State government has already set up 38 CBSE model schools. Now it is planning to set up 126 more such schools in each constituency. Rs 300 fees will be taken from non-BPL students. Will this not be a blow to the SEBA Board and the other vernacular schools?

People of Assam have the right to quality education. Education Department of Govt. of Assam has been trying to ensure quality education through govt. schools and colleges. We are experimenting with various models. Setting up of 126 CBSE Model

Schools is a part of that experimentation. And I am happy to inform you that already 38 functioning model schools operating in various educationally backward areas of Assam are doing extremely well.

Through these CBSE schools, we want to provide best of everything. In fact, the guardians of these schools are proposing to offer financial help. The guardians have written to us that they would be happy to contribute to the overall development of the schools. We will be charging Rs. 300/- from the non-BPL students so that some extra facilities can be provided to the students.

I don't think that introduction of CBSE schools will jeopardize the SEBA schools. We are adopting multi-pronged approach to impart education. Under the leadership of Education Minister Dr Ranaj Pegu, a holistic approach is being adopted to inject vibrancy and dynamism to SEBA schools which are elaborated in the following paras.

As per the National Education Policy medium of instruction should be in mother tongue up to Class 5 and if possible up to Class

8. But our State government's decisions are going against the NEP.

I must tell you that this decision by the NEP is not being accepted without contestation. Nevertheless, clause 4.14 of NEP says "all efforts will be made in preparing high-quality bilingual textbooks and teaching-learning materials for Science and Mathematics so that students are enabled to think and speak about the two subjects both in their home language and in English." Research shows that the brain system specialized in learning new languages grow rapidly from around 6 or 7 years until puberty. We are introducing English in Class-III where the student will be in the age group of 8 years+. Our own experience shows that most of the schools which are not doing well in HSLC examinations are essentially having problems in English, Maths and Science. In an analysis, in about 40 Rabha and Garo medium schools we found that students have tremendous problem in shifting their medium of education suddenly from Class-VIII. Result is zero to 10% pass in HSLC examination. In Assamese and Bodo medium schools also, students find immense difficulty in appearing for entrance test where they have to suddenly shift from Class X or XII. We want to impart certain subjects in English so that the application of English language is imbibed. Our students have cognitive competence but they have profound problem in communicative competence which finds manifestation when they ap-

pear in various entrance test based examination in Class 10+2. This is in contrast with previous system where professions like medical, engineering, etc were based on marks basis and not on entrance test.

There are frequent demands for regularization of teachers, tutors and contractual teachers. What is the position?

In Assam, we have about 46,000 schools with about 2 lakh 40 thousand teachers. Our PTR is one of the best in the country which is about 21:1. Of course, we have problem of rationalization. We have inherited a legacy of untrained teachers and under-qualified teachers as per the norms of NCTE from the previous Congress regime. The Govt. of Assam is trying best to accommodate those teachers. However, we must remember that education system is for the students first where the teachers constitute an important pillar and not vice versa. Our Honourable Chief Minister (HCM) has somehow accommodated them but when we attempt to regularize, we are confronted by NCTE norms plus Supreme Court decisions.

There is a demand to improve existing infrastructure and the standard of the schools. Has the Gunosav initiative helped you to make a proper assessment?

Gunosav is certainly a very important parameter for evaluating the quality parameters of various schools. This is a self-auditing exercise to see where

our schools stand. This helps us to improvise infrastructure, provide teachers if there is lack of it, and to find out the quality parameters of students. In addition, CM has declared a sum of Rs. 10,000 crore for constructing new building of our secondary schools. We have also initiated process of teachers training in English, Mathematics and Science. The 35,000+ untrained teachers will now be trained by KKHSS.

It is seen that the future of Assamese language is always linked to Assamese medium schools. No effort is made to monitor the teaching of Assamese language in private English medium schools.

It would be wrong to give the entire responsibility of keeping Assamese language alive to the public schools of Assam. I do strongly believe that it is not the duty of Govt schools alone. Assamese middle class must also bear the responsibility. Most of the stalwarts who are opposing the Govt. decision do invariably send their wards to English medium schools. They push the onus to maintain Assamese medium schools by the lower strata of the society. There lies the dichotomy. The issue of Assamese teaching in private schools is being looked at. I am happy to inform that under NEP, a new institution to be known as State School Standard Authority (SSSA) is being set up to review quality of teachers, syllabus, teachers orientation etc. of both govt. and private schools.

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Maths, science in English: Will it work?

■ Dr Padmini Bhuyan Boruah

The recent announcement by the Government of Assam to begin teaching mathematics and science in English from Grade 3 in government schools has continued to be a subject of passionate debate. While many believe it will give children from Assam a competitive edge, many others fear it will lead to negative outcomes on education in Assamese. The issue is complex, and it may be useful to submit it to stakeholder experiences, educational theory and empirical research.

The significance of English in the academic, professional and social lives of the present generation has been acknowledged by all national education policies. All parents aspire for good English education for their children, and many are willing to pay for private education if that guarantees proficiency in English. This rush towards private English medium schools cannot be dismissed as a betrayal of loyalty toward Assamese culture and tradition. There has been deep disappointment in the way English is taught in government schools; the fear that government school education will not give students the desired English proficiency even after ten years of compulsory learning is not unfounded or misguided.

Currently, English begins in Class 1 in Assam, and is guided by the belief that early introduction of the language will ensure greater proficiency. But although the grade in which English is introduced and the teaching materials have changed over the decades, the pedagogy has remained much the same.

English is still taught in government schools by many teachers who are not proficient in English themselves, and

teaching of English continues to follow a methodology of translation, rote memorisation and grammar rules, with little focus on oral language development. Additionally, the methodology of teaching a 'language subject' like English is no different from that of 'content subjects' like maths or science; teachers continue to 'explain' English lessons rather than using them to develop language skills. When the teaching of English itself is fraught with issues, it is both impractical and unwise to burden English teachers with the responsibility of developing conceptual knowledge in mathematics or science.

While it is established that English is a necessary resource for Indian children, research in global multilingual colonial contexts demonstrates how proficiency in English can be developed without a subtractive effect on children's home languages. Scholars point out that to acquire cognitive academic language proficiency (CALP, Cummins, 1996) in a language one needs literacy training for at least six years. When children acquire conceptual knowledge in their familiar language(s), it provides them with the adequate tools to understand, express, use and critique these concepts, and build their knowledge upon their lived experiences. It also builds self-confidence and allows them to acquire other languages more easily. A multilingual brain is more cognitively developed than a monolingual brain, but this development does not occur with the sudden introduction of content subjects in a lan-

guage in which one's basic interpersonal communication skills (BICS, Cummins, 1999) have not developed.

Successful mother tongue-based multilingual education (MTBMLE) programmes across the world have shown how an organised and gradual transition (UNESCO, 2018) to a new language at school helps build academic proficiency in multiple languages. In such programmes, a child's oral

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and written literacy in the mother tongue/home language (L1) is developed until at least Grade 3. After that, oral literacy in the second language (L2) is introduced, while written literacy development in the L1 continues. After two (or more) years, written literacy in the L2 is introduced, while mother tongue literacy progressively develops. In all these stages, the home language is not abandoned as soon as a new language is introduced; rather, it acts as a powerful bridge that strengthens cognitive learning in the additional language. A

structured MLE programme also prevents dropout, failure and decline of national literacy rates.

Language across the curriculum (LAC) and content and language integrated learning (CLIL) are other theoretical frameworks that guide the introduction of more than one language at school. In such programmes subjects such as mathematics or social science are introduced gradually in (say) English, while other subjects continue to be taught in the first language of the school. But the objective in CLIL or LAC models is not to develop knowledge of maths, but to develop English through maths conceptual vocabulary.

If subject knowledge and language proficiency are to develop simultaneously, appropriate pedagogical materials will need to be developed by language education specialists, subject scholars and linguists who are theoretically grounded in multilingual education. Subject textbooks will have to be developed not through mere translation into English or vice versa, but through gradual and graded introduction of the academic idiom of English.

For effective multilingual teaching, teacher recruitment and training will have to be restructured. English teachers at both school and college levels continue to be recruited with no language pedagogy training, with a generic BEd degree or a degree in English literature erroneously considered an adequate qualification to teach a language. Nor are maths or science teach-

ers given pedagogy training in their subject specialisms (i.e. how to teach maths). Any teacher who can speak English fluently may not be able to teach maths concepts appropriately, because the language of maths has a particular style and content; a particular register.

Children's natural language abilities will have to be nurtured and developed through education in the mother tongue as long as possible, while gradually transitioning to a language of wider communication (LWC) such as English. There is a lot to learn from mistakes in the past. For example, many of us educated in 'convent' schools or high cost private English medium schools acquired highly developed competency in English through constant exposure to the language but at the cost of cognitive academic language proficiency in the home languages (say, Assamese). In short, if we want our learners to become multi-literate (i.e. read and write competently in more than one language), multilingual (use all languages orally and in writing in various situations adequately and effortlessly) and multicultural (live harmoniously with people from different cultural backgrounds), we need to adopt a structured multilingual education framework for all children. This has to be implemented through a carefully planned and supported process of education management that favours a late-exit policy which introduces other languages after at least six years of home language literacy. This will help break down the barriers between children's home language competence and school language curricular requirements. If we are able to do that, our children will become academically proficient in both Assamese and English, and competent to study other subjects with ease, confidence and success. 92/6

'Will I be illiterate?'

As the Taliban took over Afghanistan, they issued a series of diktats, much of it impacting the freedom and life choices of women. NIRUPAMA SUBRAMANIAN visits Kabul after a year of the takeover and finds girls fighting back — attending secret classes, refusing to disappear



EXPRESS IN KABUL

Toliev dastan, towash dastan. At a "secret school" in a Kabul neighbourhood, a girl writes out the Dari sentence on a whiteboard in the Persian script. "Give education, give virtue."

The underground school in suburban Kabul began in July this year, one of 36 set up by women's rights activists, months after the Taliban regime in Afghanistan disallowed school for girls studying in classes 7 and above. In the Taliban's interpretation of Islam, there is no award in educating girls. While women have so far not been stopped from going to universities — men and women go on separate days — given the ban on schooling, there will be no new admissions.

In the class of 26 are women of varying ages, including a woman in her thirties, who had to drop out of school in her fourth grade during the first Taliban regime from 1996 to 2001, and her daughters, who should have started Class 8 in March this year but is now out of school — two generations of women who know first-hand what it is to have dreams cut short, what it is for women and girls to live under the Taliban's boots.

"I could never go back to school after that. It came here because it is a chance to relax, how to write and read Dari and be able to do some sums, so that I can teach my children," says the mother.

Her daughter says she finds the class too basic, but "I don't want to forget what I have learnt in my school. Plus, I got to meet other girls here, like I used to in school. It is more fun than staying at home." She wants to be a teacher when she grows up. Another girl her age wants to be a nurse.

The school is held every afternoon from 3 pm to 5 pm in the first-floor home of a middle-aged woman who has an undergraduate degree in education. A fridge with fruit magnets has been pushed into it to make space for the girls, who sit bunched on a carpet. A drum helps prop up the whiteboard. They learn to read and write Dari (in Persian script) and memorise multiplication tables.

"When we first started, there were only girls, but the word spread and it looks like I will soon have 40 girls and women here. I might need to start another class," says the teacher, who worked at the UN as a community outreach person but found herself without a job after the Taliban took over in 1996.

sections of the Afghan population to be directly impacted as the Taliban resumed its rule in the country on August 15 last year.

In a report in June this year, the UN documented a series of restrictions on Afghan women since last year that have curtailed their freedoms and rights. After the formation of an all-male cabinet, the first ominous signal came when the Ministry of Women's Affairs was replaced by the Ministry for Propagation of Virtue and Prevention of Vice. Since then, a number of edicts have followed — prescribing dress codes for women in public and for women television journalists, and rules on the mobility of women. It is now compulsory for women to be accompanied by a mahram — a male family member — when travelling beyond a radius of 70 km.

Working women, including those in the government, have been asked not to come to work. Many have lost their jobs, some are allowed back on one day of the month, and some once a week, but only to sign the attendance register. For this, they receive a reduced salary.

Only the teaching and health sectors have been spared. Women also continue to work where their presence is considered necessary by the Taliban — most noticeably in the police and in airports, where women passengers need to be checked. In workplaces where women continue to work, they have been segregated from their male colleagues.

In Kabul, young girls walk, beseeched and tight against their black-clad bodies, to attend private English coaching classes known as "moms". This is the only kind of education now allowed for teenage girls, other than "Islamic" education at madrasas.

Sometimes women can be spotted walking in a park in the morning, in groups of three or four, covered head to toe in black. Some parks have designated days for men and women, and some, like the famous Bagh-e-Babur, have separate gendered sections.

While a large number of women have been rendered invisible already, the silver lining is that they have refused to disappear fully from public spaces. They cover themselves in the prescribed dress code, and try and continue their lives to best as they can.

A woman waits for a friend by the roadside, looking anxiously into her phone. In leafy affluent areas, women are out shopping for vegetables and fruits at roadside markets. And the number of women begging on the streets, children in tow, has gone up so much that the Taliban have announced they will stop them from doing so.

On a Friday, the weekly holiday, a group of women, all from one family, along with their children — all of them girls — sit around a long table in a restaurant. The introduction, the go-around the table offers a brief glimpse into how the lives of middle-class, educated Afghan women have been affected by a year



Afghan underground class in Kabul, saving the many that have come up since the Taliban banned girls higher than Class 6 from school. Nirupama Subramanian

of Taliban rule.

"We have come out like this after a long time... nearly six months. I had been a depressing time for everyone, especially the girls. They can't go to school anymore," says Nuda Shukur, a doctor working with an international NGO that has projects in Nuristan, Nangarhar, Paktia, Chahmai and Kuzar provinces of Afghanistan.

"I have to travel to supervise field work. I am usually happy with the work I do, but now the problem is, we cannot go to all places without a mahram. I take my husband, but he doesn't like to come with me all the time because he has his own job. That's why now I go only once every two or three months," she says.

The mahram rule has prompted many international organisations and their local partners, which have tried to retain most of their women employees, having married couples.

Instafah Rahmatullah has been working in the government department of museums since 2003, and is posted at the National Museum of Afghanistan. "I still walk there, but only in teams. They have asked us not to come. Once a work log and update register and get my salary," she says.

Mawa Rahmatullah used to work in an account. "After the Taliban came, they fired all women. I have specialised in Dari, but I studied it as part of my MBA course. Right now, I'm not working and mostly, that doesn't feel good," she says.

Nailiba Rahmatian is a teacher in a girls' school, which does not have classes any more for Grades 7 to 12. She teaches classes 1 to 3. "Our problems are too many," she says, adding that the security situation in Kabul has, however, improved. "Earlier, we would have been sure about dropping out. But I've heard from the girls who are loudly and arguments break out.

The three teenage girls at the table now no longer go to school. One wanted to become a doctor, another a clothes designer, the third a businesswoman. They believe they can pursue their dreams only if they go abroad.

Everywhere in Kabul, the sense of rage is palpable. Nearly everyone is waiting to leave for any country that will take them. Many educated Afghans have already left. World-edited Afghans have already left. Most senior ambassadors yet to stopen after shutting down last year, thousands have left for Pakistan to apply for visas from there. India recently opened its embassy in Kabul, but isn't issuing visas.

Women living outside Kabul have it much tougher. A 19-year-old girl from a provincial capital relates her experience of being lashed to a police station for being out with her 18-year-old nephew, her older sister's son.

"It was the worst thing that ever happened to me," says the girl, who is now in Kabul, waiting for a visa to a Central Asian country.

The girl recalls how she and her nephew were questioned separately to verify if the names of their family members matched, but were still disbelieved. The Taliban at the station wanted the girl's father, who lives in another province, to show up, but eventually agreed to meet the girl's mother, who touched that the girl was her sister. But even she needed a male witness to corroborate her statement.

"At the police station, the Taliban were calling me all sorts of names. When I started explaining, they ordered me not to speak. They said hearing my voice was harm to them. They told me not to look at them but they were staring at me like hungry lions. My hands were trembling, but I did not cry because that is what they wanted to see. I wept when. My parents have taught me to be strong," she says.

Abdul Qabar Balikh, the suave English-speaking spokesperson at the Foreign Ministry of the de facto Taliban government, dismissed international concerns over women's education and their near-banishment from national life as "income" and "simply not true".

He evels-off numbers — 136,000 women work in the civil service, 16,000 of them in the education sector alone. "All of them have managed to work. All of them are going to their jobs daily, providing education to students," he says.

The health sector has 14,000 women and they, too, have returned to work, he claims. Some with those employed to handle security assignments.

"They are working in passport offices and immigration and a lot of other areas. A very small number of women have not returned to work. However, they haven't been fired, they are getting their salaries. We, the salaries are reduced, but that is for everyone. The budget of Afghanistan is such that we cannot pay the large salaries that were paid before we came to power. In the private sector, women are in business, they are shop-owners. The government reopened the Women's Chamber of Commerce in Kabul. Maza-e-Sharif and Meraf. They are working with NGOs, they are working in banks, and in other areas of the private sector," he claims. "So this idea that women are not allowed to contribute is simply not true."

Girls have access to secondary education in more than a dozen provinces, he claims, adding that in Kabul and other provinces, there is a "temporary suspension".

"It is the only country in the world that has gone through 47 years of unending and incessant violence and conflict and occupation. There are no national or budgetary constraints, there is no lack of resources, investment, teachers, books. But the government is working extremely hard to try to address this problem," says Balikh. "Our policy is education for all Afghan citizens, irrespective of gender."

If the international community "graciously" wants to help Afghanistan, says Balikh, it should "not" respond to this issue, and "can" very easily send Afghanistan an aid as well as for special technical assistance. Then, as the government continues to work to address the remaining problems (in education), "help it, instead of trying to find moral justifications for some of the very inhumane actions that they are taking, such as the sanctions on Afghanistan, the confiscation of assets, and the blanket. So their work to be done by both sides."

Diminishing the suggestion that the Taliban were once a de facto government, educating women who might challenge the interpretation of Islam, Balikh says. "The women of Afghanistan are Muslim. They don't challenge our faith. Islam is a religion that teaches that people have different views on

different laws. But at the end of the day, it's the government that enacts those laws."

Devastated by decades of war, school and college education in Afghanistan, particularly that of girls, was in critical condition even before the Taliban took over last year. Between 2002 and 2020, the country made small strides in education, but the effort was stymied by the war between foreign forces and the Taliban.

In August earlier this month, UNICEF said even before the Taliban takeover last year, 4.2 million Afghan children were out of school, of whom 10 per cent were girls. Only 42 per cent of girls are in tertiary education, compared to over 14 per cent for boys. In a report in June, the UN Assistance Mission in Afghanistan warned that unless the Taliban allowed girls access to secondary education, over the next two or three months, an entire generation of girls was at risk of not being able to complete their full 12 years of basic education.

Asked if as a Muslim, he supported the Taliban (they are mainly Pathans), a taxi driver with nine children — five girls and four boys — said, "What have they done for me that I should support them? Let them first allow girls to go back to school, then I will be the first to come out of their side."

A woman activist is scolding about the "Crisis Centre" that the US played on the people of her country. "America does not want peace in Afghanistan, that is why they handed over the country to the worst people. Violence allows them to keep control over Afghanistan," she says. "Afghanistan is a land with a place that everyone wants a piece of it. Unfortunately, the Afghan people are the most affected. Each one of them picks themselves up and start again, only to be hit again."

In another underground school in a Kabul neighbourhood that has experienced many bombings, a 16-year-old girl, who was in Class 10 when the Taliban took over, says she has given up her dreams of becoming a doctor, she now teaches English to girls in her neighbourhood. Several of her students are in Class 11 and they dream to learn from her after school hours. The girl shows the school uniform she had worn until last year — black tunic and trousers, with a white scarf.

One of her students would have been in Class 10 this year. "We were supposed to go to school when it opened on March 21 (the school academic year is from March to January). But when I realised, the school had told us to go home. One of my friends wore a black tunic and trousers to school in August, some were crying," she says. "My biggest fear that day was that I would be someone else. I want to be a nurse when I grow up, and that career happened only if I study and go to college and university."

Spacesuits for kids to fly high in digital space

The online world is a new space and we have already pushed our children into it without protection. However, with a strong collaboration among the government, internet intermediaries and civil society, India can be the world power that understands the nuances of a digital existence, takes actions, and enjoys the fruit of the efforts. Let us give our children the power to excel and have bright futures



JYOTI VADEHRA



SANDEEP JOSHI

Human beings have a complicated relationship with change. Sometimes we welcome it, sometimes we resist it; sometimes we let it come and sometimes we try to stop it. But change has a way of sneaking up on us, whether we like it or not.

If you are reading this, you have obviously survived the pandemic that the world was trying to fight for over two years, and still is. We are in the post-pandemic era. It is high time we took stock of the change that surrounds us, and gauged how well we have adapted to it.

A virtual existence was always on the cards. We have watched enough sci-fi movies that impacted our visualisation of the future. We have seen flying cars, robots taking over, people living inside screens, education through means other than institutions and even love and connection happening virtually, in more movies and shows than we wish to care about.

It is 2022, we urge you to look around. A lot of the prospective development we

only thought was going to happen in the near future has already come about. We already have a virtual existence. An extension of us, but also as much more than that. We meet online now, we connect online, we learn online. And this extension of ourselves, this digital persona or facet of our lives, which seems to have a life of its own, impacts our real physical lives from insurmountable positions. And the impact on children, whose whole life exists parallel online, now, is even greater than we can imagine.

According to Unicef's report "Children in a Digital World", "Connectivity can be a game changer for some of the world's most marginalised children, helping them fulfil their potential and break intergenerational cycles of poverty".

The possibilities are unlimited and extremely powerful. At the same time, we cannot deny there can be some unwanted scenarios that they might face or are already facing. However, children are a lot more resilient. They swiftly adapted to a life lived indoors and to a life



lived online. And just as the world opened up, they even more capably adapted to being allowed outside, while maintaining their digital presence. They did not make too much noise, because this is their normal now, and it is just the world they live in.

But do you think they are prepared enough? An unknown is an unknown, no matter how hard one tries to foresee it. This digital existence is a huge unknown for all of us. There are obvious monumental benefits, but there are always

two sides to a coin. And this is a very new coin. There are many negative aspects in this world, some known, some not so much. So what do we do? Is it not our job then to figure this out for our children?

Let's go back to the beginning. The survival of mankind is very firmly based on learning through education. We have built systems around this very need. Our offspring are sent out to learn as soon as they are able. And formal learning continues most of the initial life. Why is that? So that we

have a better understanding of life. So why are we shying away from creating new systems around this new change that has found its way into our lives, and into the lives of our children. The online world is a new space and we have already pushed our children into it without protection, without as much as a "spacesuit".

In an ideal world, there would be an established system of education and children would slowly get integrated into the new normal over a well-planned period of time. But reality is far removed from this. The pandemic accelerated their introduction and assimilation into a life lived online. They went into it with their eyes closed and their hands tied behind their back. It is time we open these ties, and hand them proper tools and a map to navigate the advent of this latest existence.

It should also be mentioned at this point that the ever-existing protectionist attitude towards children needs to be checked. We are talking about equipping the children, not sheltering them. As they figure out their world, and awareness of it, they need to be facilitated with tools to steer themselves in the right direction. Tools that educate, build capacities and generate awareness.

One of the best ways of going about this would be a strong collaboration among the government, internet intermediaries and civil society. Though there are several organisations working directly with children, youth and women along with social media companies working collectively, but with the support of the government, efforts can be amplified and maximum impact made possible.

With the efforts started, has come a greater, stronger understanding of the issues, and interventions required to combat them. This extensive experience has brought forth a strong demand which is that "Online Safety Education" needs to become part of the curriculum in schools, universities, educational institutions across the board. These last two years have poked holes in our current teaching systems. It is

the responsibility of the State to recognise these gaps and fill them with precise modules of training. The government and its policy-makers need to understand the gravity of the situation, wake up to the reality and take meaningful action, in collaboration with individuals and organisations that are already walking this path.

It is high time India understood the power it holds in the form of its future generation(s) and be a pioneer by taking strong action.

Let us for once not follow the rest of the world. Let us be the world power that understood the nuances of a digital existence, took action, and enjoyed the fruit of the efforts. Let us give our children the power to excel and have bright futures. Let us give them not just a "SPACISUIT" but a well-equipped rocket ship of brilliant, opportune education, so to say. And then, let them soar.

(Jyoti Vadehra is a gender and child rights activist. Sandeep Joshi is a freelance journalist.)

Toppers All?

Are better pass percentages and higher scores of students a reflection of better teaching standards in the schools or do they reflect only a change in the marking pattern of the Boards? In the last three decades or so there has been substantial improvement in the infrastructure of schools in smaller towns and villages which partly explains higher percentage of students passing the exam or a higher percentage performing better. But the spectacular scores of students in recent decades is explained more by the liberal attitude of Boards in awarding marks

STATE BOARD

CBSE

ICSE



Perhaps in no other part of India does the merit list of the School Board examinations create as much inquisitiveness as it does in Bengal. People of the State, in general, are fond of discussing the academic performance of their favourites.

With the tone of appreciation, they will say such and such a person came second in the Matriculation examination and first in honours examination in such and such year and so on. That person might have done well in his exams five decades back, yet it remains a point of discussion.

If that person failed to achieve much in his subsequent professional life, that is regarded as his 'bad luck' and nothing else because his real worth already stands decided by his performance in the Matriculation examination. This unique character of Bengal has its root in her value system where, rightly or wrongly, high value is attached to academic excellence in social life.

When it comes to school leaving examinations, the importance of the State Board was overwhelming till the 1980s. Schools affiliated with CISCE were few and those affiliated with CBSE were almost non-existent in Bengal. Things gradually changed after the Left Front government in the State abolished teaching of English as a subject at primary level in the State-run schools (1982) and the State Board stopped giving affiliation to new schools preferring to impart education in English at the primary level. That policy of the State Government led the urban middle class to enrol their wards in English medium schools.

New English-medium schools, run by private trusts or by corporate houses came in large numbers to be affiliated with CISCE and CBSE Board. Gradu-

ally the importance of the State Board started waning, at least in urban areas. Conservative marking in the exams of the State Board was also one reason for guardians to prefer schools affiliated to other Boards.

In the 1960s, top 10 positions in West Bengal Board exams were mostly captured by pure government schools viz. Hindu School, Ballygunge Government High School, Hare School, Bethune Collegiate School and Zilla Schools of the districts.

In those days toppers of the Board got around 80 per cent marks and there were at most eleven or twelve students to come in top ten positions. The toppers were mostly from Calcutta or neighbourhoods coming from educated upper-class families. Very few girls in those days came in the top ten ranks. Also rare was the presence of Muslim students amongst toppers.

In the next two decades, the presence of students of government-run schools in top ten positions declined and schools like South Point, Ramakrishna Mission and the Christian Missionary Schools came to the forefront of the West Bengal Board exam.

After the 1990s, however, there was a paradigm change when the proportion of rank-holders from the schools of Calcutta and neighbourhood started declining and students from mafussil schools started doing better. The student community in Calcutta at that time wondered whether there was any bias playing against them in the WB Board exam. However, Calcutta schools maintained their predominance amongst top performers from the State in CISCE and CBSE Board examinations.

This trend has strengthened

in the last few years. Many well-known English medium schools run by the corporates shifted away from the State Board and took affiliation of CISCE or CBSE. The students from schools from Kolkata and the neighbourhood are rarely found nowadays amongst the toppers of the State Board examination.

In the last few years, the State Board has become as liberal as CISCE or CBSE in awarding marks and toppers are getting around 99 per cent. The top ten positions in Secondary Board (Madhyamik) examination of West Bengal this year were shared by an unprecedented 113 candidates.

Three decades back, Star-marks (75 per cent and above in total) and Letter marks (80 per cent and above in one subject) were the thresholds of good performance. Nowadays no one is aware of those benchmarks.

This year, 87 per cent of the students appearing in WB Board examination passed whereas in 1976 (last year of the old HS system), out of 186,000 students, 126,000 had failed (68 per cent) and only 2.2 per cent of students secured the first division.

Are better pass percentages and higher scores of students a reflection of better teaching standards in the schools or do they reflect only a change in the marking pattern of the Boards? In the last three decades or so there has been substantial improvement in the infrastructure of schools in smaller towns and villages which partly explains higher percentage of students passing the exam or a higher percentage performing better. The improved performance of the less known mafussil

schools is indicative of the spread of educational infrastructure in Tier-2 and Tier-3 towns. This is happening with the schools affiliated with all Boards. But the spectacular scores of students in general in recent decades is explained more by the liberal attitude of the Board in awarding marks.

It is heartening to see a greater number of girl-students turning out to be rank holders. Amongst the rank holders many are found to be coming from the Muslim community. Many of the rank holders now belong to backward or reserved castes and tribes. These are all reflective of a changing social milieu.

Change in the attitude of the Secondary Board and Higher Secondary Council of West Bengal in awarding higher marks to candidates are commensurate with the policy of CISCE, CBSE and other State Boards.

In a world of competition, it is meaningless to make students of one Board suffer due to conservative evaluation. However, maybe in another ten years, almost a hundred per cent of the students will pass the Board exams and anyone scoring less than 100 per cent will not be a rank holder. What next?

Will those marks serve any purpose in the process of selection of students for higher courses or in the job market? It is perhaps high time that different Boards in India consider more meaningful ways of evaluation. Absolute marks (raw or standardised) are hardly indicative of the merit of a student across Boards. Merit is always a relative term.

The performance of the student in the form of percentile scores: one that reflects the score of an individual vis-à-vis the score of the others, in different subjects as well as in total could be more meaningful and indicative of his performance. It is high time different Boards in India explore that option.



GAUTAM BHATTACHARYA

The writer is a former civil servant and retired in the grade of Additional Secretary to the Government of India

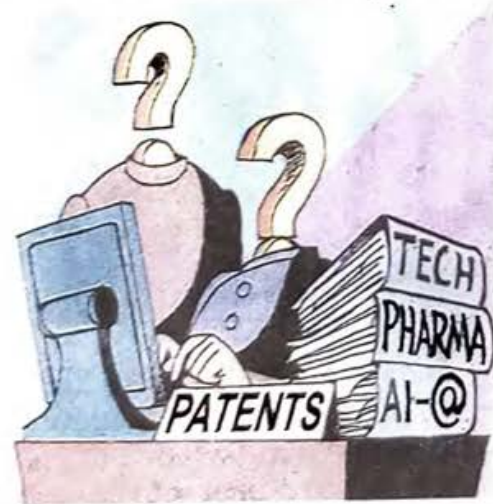
Patently Inadequate

India grants patents too slowly. Every job filled at patent office can create hundreds outside

With India betting big on startups to drive innovation and create jobs, it is imperative that patenting becomes faster. A working paper published by the Prime Minister's Economic Advisory Council pinpoints some areas requiring GoI attention. It notes that manpower at the patents office is woefully inadequate, leading to delayed issuing of patents. This gives other countries that quickly process patent applications an unnecessary advantage. Even as GoI desperately looks to fill 10 lakh central government vacancies by 2024 to tide over the jobs crisis, it is bolstering public recruitments in the right areas that will help reduce redundant government hiring elsewhere.

India's patent office had just 858 examiners and controllers in 2020 against over 13,000 in China and 8,000 in US. While patent applications have increased from 45,444 in 2016-17 to over 66,000 in 2021-22, corresponding 2020 numbers for China were 15 lakh and US

6 lakh. Obviously, research and development capabilities of Indian academia and industry are lagging hugely. But reducing average time to dispose of applications – 58 months in India against 15 in Japan, 20 in China, 21 in US – is easier; hiring 2,000 hands for the patent office will help, argues the PMEAC paper. Slow disposal not only delays new technologies, it sends serious innovators abroad. World Intellectual Property Organisation's



2010-19 data showed that Indians filed nearly similar number of applications within the country (1.2 lakh) and abroad (1.07 lakh), but only 13,670 patents were granted in India against 44,000 abroad.

While slow processing could be a reason, many domestic filers aim for first-mover advantage to pip competition by filing half-baked applications. Such non-serious filing can be busted through time bound clearances – a few months or weeks – for each stage of the patent-granting process. Again, only a well-staffed patent office can adhere to globally competitive timelines. Patent applications from startups saw a marked fivefold increase since 2016, touching 6,000 in 2021-22. Patents help startups secure funding, which in turn creates jobs. PMEAC has done a valuable job. GoI should listen to it. 2021/22/22

It's Not Just Teething Troubles

Besides the toll taken by this year's glitches and delays, is CUET really in students' interest?

All Raza Moosvi



Admission to a university is an important and sacrosanct step in the life of an individual. Apart from the experience of entering the 'universe' of knowledge, it means freedom from parental control and becoming master of one's own time. It is an admission into a different life, far or close from home and the first taste of freedom with responsibility.

Historically, the decision to go to a particular university was determined by one's school scores and guided by such factors such as a career plan, the advice of elders and well-wishers, distance, affordability and convenience, and the comfort of kinship ties in an institution.

Driving logic of the uniform test: Common entrance tests for admission to professional courses emerged in the late 1980s to regulate student input for creating a standardised skill set and professional acumen. The validity of board exam results began to crumble when it came to measuring scholastic aptitude even as an unhealthy 'coaching culture' was born.

Universities added entrance exams for admission in the hope that additional filters would enable them to objectively strain and control the huge numbers that flow from schools into a higher education system of inadequate capacity.

Since then, filters have continuously been added at every level. It would perhaps not be an exaggeration to observe that Indian students today are more 'tested' than 'educated'!

It is perhaps in this context that an all-India common testing system has been thought to be the 'correct' thing to do. The proponents of CUET (Central Universities Entrance Test) principally argue in terms of the student empowerment that a single country-wide platform offers. Each student now can choose from a seemingly unending buffet of programmes and universities. This is a



'froth and foam' argument, the flotsam and jetsam of unbaked ideas.

Questions that got suppressed in the tearing hurry: Basic questions remain on the validity of unifying diverse institutions and programmes in one single test without regard to natural regional variations in institutional cultures and structures, on doing away with staggered admission timelines, and on the fact that every central university in the country has special characteristics enshrined in its Act and Statutes.

The hurry and speed with which the decision for a single admission test was taken throughout the 40-odd central universities was disturbing. I don't think the Academic Council of any university considered the ramifications, let alone debate on them. It was a strange snap-decision, to load all 'eggs' into one ungalvanised basket and to let it go.

On top of this, 'technical glitches' from the National Testing Agency (NTA), the body tasked to conduct this test, have pushed the conduct of this

Will CUET spread talent across universities and cut the rush to a handful of coveted institutions? Will a single common academic calendar emerge in the country? Is this an idea being followed in any part of the world? And what of the students who won't secure admission this year?

test back till the end of August this year. Some early press reports alluded to this being done on "students' requests"; a conveniently anonymous petitioner!

There are also press reports that many aspirants, after months of agony and suspense, have decided to take admissions into private universities that are still largely non-participating institutions. It is reported too that the JNU Teachers Association has urged

their university to reinstate its time-tested and time-bound admission system.

What CUET's delayed finish means for the academic cycle: Let us suppose that there are no further glitches and CUET concludes in August. Then NTA hands over the results to the participating universities to initiate admissions. This frenzied activity may end by late September. The new academic year, assuming the glitches stay out, starts in October.

- Many central universities have adopted and adapted the new NEP structure from this year. This fledgling idea will be hurriedly reared in a truncated semester.
- Beginning in late September or October means that the first semester would actually be a trimester. Many universities will try to complete it by the end of December and go back to the well-travelled road of beginning the second semester in January, so as to conclude and pass out the final-year batches by April or May 2023.
- These dates are important since a bulk of our students aspire for overseas studies. Covid seriously impacted this opportunity from 2020 to 2022 and there is a real threat that CUET may take it away in 2023.

Even if we assume that this is a teething problem of the first year of implementation, there is still no explanation and logic as to why such uniformity had to be started everywhere, all at once.

Will CUET spread talent across universities and take off the load and rush for a handful of coveted institutions? Will a single common academic calendar emerge in the country? Is this an idea being followed or implemented in any part of the world? And what of the students who won't secure admission this year?

There are no answers forthcoming. CUET remains an enigmatic action wrapped in mystery while the students chase a chimera-like test-date that moves further and further away leaving them to flounder in the desert of lost time.

The writer is Vice-Chancellor Khajia Bandanowar University, Karnataka

Kannada needs its own grammar

D N SHANKARA BHAT

A lot has been written and said about the revision of Kannada text-books. I do not want to comment about those political moves. However, I do want to say something about an entirely different part of these text-books, namely the notes that are given under an imposing title, namely *saidhantika bhashabhyasa*. Does this mean the 'theoretical study' of language? I do not know. But under this imposing title, notes about the same old traditional 'Kannada grammar' are given.

I have pointed out in my book, *Kannadakke beku kannadadde vyakarana* (Kannada needs its own grammar), published about 20 years ago, that this traditional Kannada grammar, based mainly on Keshiraja's 13th century treatise, *Sabdamanidarpana*, is only an effort to apply the grammatical rules of Sanskrit to Kannada.

Sanskrit is an Indo-Aryan language, whereas Kannada is a Dravidian language. The grammars of these two languages are derived from two entirely different proto-languages, hence differ from each another even in their basic principles. Take, for example, the formation of compounds in Sanskrit and Kannada: Compounds are formed in Sanskrit by joining together two (or more) nouns, and are classified depending upon which of the two nouns is the prominent one. If the second is prominent, the compound is a *tatpurusha*, if the first is prominent, it is an *avyayibhava*, if both are prominent, then a *dvandva*, and if an outside word is prominent, it is a *bahuvrihi*. The formation of compounds in Kannada is different.

All the Kannada compounds have the second word (which is a noun) as the prominent word, and hence, all of them come under *tatpurusha*! The first word, however, may be a noun, an adjective or a verb. For example, compounds like *nelagaḍale* (groundnut), *kaimagga* (handloom), and *benkipeṭṭige* (matchbox) have a noun as the first word; *biccukatti* (open sword), *cuccumaddu* (injection), and *masekallu* (whetstone) have a verb as the first word, and compounds like *kiruberaḷu* (little finger), *niṭṭusiru*

(sigh), and *kattāḍavi* (dense forest) have an adjective as the first word. We need to classify these compounds depending upon the nature of their first word.

It is, therefore, evident that any effort to apply the classification of Sanskrit to Kannada compounds can only lead to confusion as it has happened in the traditional Kannada grammar. Some Kannada grammarians have postulated additional compounds like *gamaka* and *kriyasamasa*, which are not compounds at all. There are several such fundamental differences between the grammars of Sanskrit and Kannada. Since, the ancient grammarians of Kannada like Nagavarma and Keshiraja were completely unaware of these differences, their efforts to write Kannada grammar by using Sanskrit as their model has led to many wrongs and confusion. Since the *saidhantika bhashabhyasa* of Kannada text-books is based upon these traditional grammars, it also contains many such errors.

There is another important difference between the two. Sanskrit is a written form of a language that existed about 2000 years ago, and has remained unchanged. The written form of Kannada, however, has undergone changes in the past thousand years, depending upon the changes in its spoken form.

As a result, Old Kannada changed to Middle Kannada, which has now changed to Modern Kannada. Grammar too reflects these changes. For example, there is no difference between compounds and noun phrases in Sanskrit, except for the fact that in compounds, the first word loses its case suffix. Generally, there is no difference in meaning between compounds and noun phrases in Sanskrit. In Kannada, compounds are very different from noun phrases not only in form, but also in their meaning. One cannot generally obtain the meaning of a Kannada compound word by merely looking at the meaning of its constituent elements.

This, and several other differences that are based upon the above factor, were also not recognised by traditional Kannada grammarians, and this problem affects the *Saidhantika bhashabhyasa* of Kannada text-books.

DN/23/7

Aurobindo's task of awakening spiritual India

Aurobindo's evolution from a nationalist revolutionary to a spiritual teacher was ordained divinely

On August 15, 1947, India attained independence from the British Raj. Ninety-five years earlier on the same day Sri Aurobindo, a great yogi and a spiritual reformer, was born. Who was one of the pioneers of the Indian independence movement.

Aurobindo's father Dr. Kriplanathan Bose was a professional doctor in England. Kriplanathan was so influenced by the western culture that he wanted to rear and educate his child according to British standards. Sri Aurobindo's entire upbringing, including his education, took place in England. When he was five years old, he was sent to Loreto School in Dejerling. He was seven years old when he was sent to



SRI AUROBINDO

(The author is a spiritual teacher.)

England. He spent the next 14 years studying at a school in Manchester, and then attended St. Paul's College, Cambridge.

Later, in 1892, he received the top marks for the main paper of the Indian Civil Service examinations. By then he had already become well acquainted with the freedom fighters of the Indian independence movement and an intense nationalistic fervor and patriotism had awakened in him.

He refused to become the administrator of the English establishment by deliberately skipping horse-riding competition, which was the final part of the test. Instead, he became an active member of Lotus and Swami, the revolutionary, semi-underground organization based in India. It was during

this time that he met Maharaja Gaskard of Baroda who urged him to return back to India for good and work for the government of Baroda, while continuing to help the Indian independence movement.

In 1893, Sri Aurobindo received his degree and returned back to India. For the next nine years, he served the Baroda government. During this time he also got acquainted with Indian culture, yoga and the freedom movement.

While he was still stationed in Baroda, Aurobindo married 14-year-old Mrinalini Devi. At this time, he was also active in organizing an armed rebellion against British rule. As his political aspiration deepened, his interest in meditation and spirituality matured. Due to the 'sanatani' of his par-

ties, in spite of his hectic schedule, he started managing time for inner exploration, and his search for a Guru led him to Bishanbhaskar Lala of Maharashtra.

Lala could see great potential in Aurobindo. He urged him to spend some time with him and meditate together. It was very difficult for Aurobindo to arrange free time but he managed three days out of his busy schedule. He meditated in seclusion with Lala for three days and had deep experiences of meditation. He experienced the state of thoughtless consciousness and realized that he was a witness—a state that often takes years for a normal meditator to achieve.

Lala was very much impressed by the progress and advised Aurobindo to leave

his worldly affairs and devote full-time to meditation. Aurobindo felt that leaving India under British rule to go and meditate would be escaping the need of the moment and didn't agree to do so. However, he continued meditating regularly. He started to get instructions and inspiration from within during his meditation. He shared his experiences with Lala, who was very happy to hear them.

Lala told him, "If you have full faith in your inner voice then you don't need any advice from outside."

In 1906, Aurobindo left Baroda for Kolkata, which was a fertile ground for the revolutionaries. He had accepted the post of principal at the Bengal National College but spent most of his time encouraging

the revolutionaries, editing pamphlets and newspapers and supporting organizations. In 1908, the family of Kingsford, the British Governor of the area, was assassinated in a bomb blast. Aurobindo was one of the prime suspects. He was arrested and put in Alipour Jail.

Initially, Aurobindo was disheartened but when he started to meditate in the jail, his inner voice said, "Just wait and watch."

Since his political and professional career had hindered him from exploring the deeper aspects of yoga and meditation, he found out that his arrest had been a blessing in disguise. He spent his days studying the Gita and the Upanishads and meditating.

In Alipour Jail, among other things, Aurobindo experienced

visions of himself. He also heard instructions from Sri Vivekananda continuously for 13 days although it had already been 10 years since Sri Sri Vivekananda had left this body. While meditating in the jail, a lot of his dormant wisdom also awakened.

There was a lightning bolt right at the end of the cell. Sri Aurobindo had the darshan of Lord Krishna, who gave advice to him to leave all other work and devote full-time to his mission. Aurobindo was still worried about the independence movement.

Krishna assured him, "I will take the responsibility of India's freedom. The independence of India will come as a gift of your hands." To be certain and... (Page 1)



DINESH SOOD

Skilled people needed for sustainable growth

Higher education institutions have to rise to the occasion so that their alumni use their talents in nation building

Indian skilled workforce can easily be divided into three categories – primary, secondary and tertiary. Primary skilled workforce consists of those who are simply matriculates, school dropouts or even illiterates, but work as barbers, cooks, masons, carpenters or plumbers. Secondary skilled workforce mainly comprises youths, who have some degrees or certificates but without any certified exposure or experience in sync with their skills. The last category is certainly those who have higher educational degrees, skills, ability to articulate or visualize and execute or achieve work targets at a level which leads to the creation of assets or capital.

Still, we are not in a happy situation! An estimate suggests that we added 4.5 lakh employees to the tech workforce during FY 2021-22. A report by Nasscom-Zinnov says that India will face a shortage of 14-19 lakh tech professionals by 2026. As compared to the current tech workforce of 47 lakh in the country, India needs 52 lakh tech professionals. By 2026, as per the report, India is estimated to have 75-78 lakh tech professionals. However, the requirement is being pegged at 93-96 lakh techies, reflecting a gap of 14-19 lakh tech workforces.

CII's 'Decoding Job Report 2022' talks of comprehensive collaboration between industry and academia. Educational institutes lack in providing industry-relevant skills to students. It is a proven fact that our youth carrying degrees of higher education are not well skilled. Quite often we also read in newspapers, how our Post-graduates, Graduates and Research Scholars apply for clerical government jobs. I can recall the days when qualified people used to apply for the Mahatma Gandhi National Rural Employment Guarantee Act (MNREGA) cards, presuming that they will get them some fixed amount every month from the government without any work.

There is an important take away from this, which is relevant even today and an important issue to ponder over. It is the employability of youths who are armed with degrees conferred upon them by higher education institutions (HEIs), but they are not equipped with employable skills.

I am not questioning either their abilities or the quality of education imparted to them by their alma maters. However, as an expert and employer, I wonder if they will ever get a job on the basis of their degrees. Some of them will do some professional or add-on courses to acquire some employable skills. For example, B. Com students will upgrade their accounting knowledge to get some jobs.

Similarly, students of Pure Sciences or those who have done liberal studies will do B. Ed so that they become teachers if they do not get government jobs. It is here that we are seriously erring. It is nowhere written or proven that students of Humanities cannot become a skilled workforce. We've wrongly presumed that skills are not meant for all. Let me disagree.



INDIA NEEDS 52 LAKH TECH PROFESSIONALS S. BY 2026, INDIA IS ESTIMATED TO HAVE 75-78 LAKH TECH PROFESSIONALS S. HOWEVER, THE REQUIREMENT IS BEING PEGGED AT 93-96 LAKH TECHIES, REFLECTING A GAP OF 14-19 LAKH TECH WORKFORCE

(The author is a training partner with National Skill Development Corporation, Gov. Views expressed in the article are personal.)



Today skills are needed by all. The Ministry of Education recently released the National Institution Ranking Framework-2022 (NIRF-22). Minister of Education, Skill Development and Entrepreneurship Dharmendra Pradhan was quoted saying in an official note that "a robust and objective framework for assessment, accreditation and ranking will play a major role in enhancing quality in the higher education ecosystem."

The minister further stated that "we are moving towards creating a knowledge-based economy which is innovation-led and technology-driven". "Our higher educational institutions have to play a key role in making India a leading global innovation and digital economy and making quality education affordable and accessible for the bottom of the pyramid population," he added.

Five broad categories of parameters identified in the NIRF are teaching, learning and resources; research and professional practice; graduation outcomes; outreach and inclusivity, and perception. Skills or entrepreneurial skills are not a parameter. Indian Institute of Technology, Madras retained its first position in 'Overall Category' for the fourth consecutive year and in 'Engineering' for the seventh consecutive year. Interestingly, the top 100 academic institutions in the overall category consists of 40 centrally funded technical institutions (CFTIs) and centrally funded universities (CFUs), including 38 technical institutions, 26 state universities, 24 deemed universities, six private universities, seven medical institutions and three management

institutions.

However, in order to improve the culture of innovation and entrepreneurship, we need to educate our students in a way that not only enhances their knowledge but also provides the skill to live a fulfilling and useful life. It should happen in all HEIs, and not just a few hundreds of them. No doubt, the National Education Policy 2020 lays down the roadmap for the 21st century education system. Synergy between education and skills is creating a new ecosystem. We are certainly striving our best to make learning more vibrant, harness 'Industry 4.0' and sow the seeds for shaping the destiny of India@100 but are we really aligned to global trends and future challenges remains a million-dollar question.

To excel in the 21st century labour market, India needs a comprehensive skill set composed of cognitive skills, which encompass the ability to understand complex ideas, adapt effectively to the environment, learn from experience, and reason; socio-emotional skills, which describe the ability to navigate interpersonal and social situations effectively; technical skills needed to perform a specific task; and digital skills, which are cross-cutting.

Are our HEIs aligned to withstand the present and future challenges of the labour market? Is there a complete alignment between relevance and efficiency of technical knowledge, which our youths are getting in HEIs?

No, there is not! There are critical gaps, which we need to admit and we ourselves are to be blamed for those gaps. We are paying the price for being routine in our

approaches towards education in general, and skill education in particular.

Look at some of the countries, which are known for their skilled workforce. Japan tops the list followed by South Korea, Germany, China, United Kingdom, United States, Canada, Norway, Switzerland, Singapore, and so on. They have invested a lot in their higher education. The way China has skilled its masses is remarkable. They can make anything or everything whatever is used on this planet. Switzerland is blessed with the most skilled workers, enjoying very low crime rates, clean cities, minimal homeless population, clean air and beautiful landscapes.

Look at Singapore, whose education system produces a large, reliable workforce every year. Predominant industries in Sweden are telecommunications, industrial machines, chemical goods, pharmaceuticals, motor vehicles, precision equipment, iron and steel, and home goods and appliances. All skilled based! Denmark boasts of some world-leading advanced industries with a major focus on maritime shipping, pharmaceuticals, and renewable energy. The country has a highly educated and well-informed population, with international schools across the country.

The message is loud and clear. Fast-paced sustainable growth with marked improvement in people's life can be possible only when we create a highly skilled workforce for which our HEIs have to rise to the occasion so that their alumni justify their degrees and make the most of their talents in building a new India. 23/8/22

Importance of foundational skills of literacy and numeracy among children

**KADAMBARI RANA AND
JENNIFER NICODIMAS**

Early childhood is a marvelous period in a human being's life. During this phase everything that the child experiences have an impact on the child's abilities to successfully interact with the world around her as an adult.

This period is also referred to as 'the incredible infancy' because during this phase the brain is developing at a very rapid pace. By six years of age 90 per cent of the brain is developed. This does not mean that the child has acquired 90 per cent of all the knowledge or experiences by age six, it means that 90 per cent of the neural pathways are formed by this stage.

Development of robust neural pathways enhances mental fertility, which in turn impacts life-long intellectual abilities, physical health, learning aptitude and behaviour patterns.

The core domains of child development can be divided into the physical domain, the social domain, emotional domain, language, and cognitive domain. However, none of these domains operate in isolation of one another therefore all components of the holistic needs of a child need to be met simultaneously.

The specific core area of language development enhances the ability to listen attentively, respond through speech clearly, pre-reading and reading skills and pre-writing and writing skills. For little children to be able to understand simple words, their needs as well as aspirations are a very important step towards independence and self-assertion.

During this phase, children often express their curiosities by asking, observation, or words. This third for answers must be questioned by the adults around the child.



Autonomy, Initiative, and Industry in Children

Young children and toddlers have an instinct to assert themselves. They assert themselves because they wish to be the decision makers of their life choices. Some of the ways in which they demonstrate this desire are by wanting to pick out their own toys, excitement to hand-pick their own clothes, wanting to eat food by themselves, wanting to take bath by themselves and so on.

However, excessive disciplinary action on the part of the adults induces a sense of guilt in children, resulting in self-doubt and stunted cognitive development. If parents and teachers wish for children to become industrious and self-exploratory then they must free them from the spell of 'permissiveness' cast upon them.

Specifically, in terms of pre-literacy and numeracy skills, children as young as two-year-old demonstrate desire to read a book by themselves, pretend letter writing, make cards and write messages for mothers, fathers, friends, grandparents, teachers and family, follow text and pictures while parents read a story book, glance at

newspapers, telephone bills, grocery bills and so on. They are continuously and very naturally trying to decode symbols and quantities all around them. These early signs prove that the desire to read, write and count is as natural as the instinct to listen and speak.

Significance of Pre-Literacy Skills

Pre-literacy skills are significantly far and beyond the edgious view that many in the community hold. Typically, the skill of reading, writing, recognizing letters and numbers, counting numbers and reciting alphabets are considered as milestones of pre-literacy skills.

However, lesser-known skills of visual perception, spatial and temporal vocabulary and object manipulation also significantly impact literacy skills. Some of the ways in which these can be cultivated in children are through activities such as coloring numbers and alphabets, learning numbers and letters through stories, songs or rhymes, activities and games that involve categorizing and sorting of different shapes, colors and sizes.

A child embarks on the path to literacy, long before she begins to formally read and write, through play. Some signs of emergent literacy and numeracy through play are dramatic play, speaking, listening to stories, creating stories, flipping the pages of a book, scribbling, singing rhymes, humming a song, pointing to signs, recognizing meaning of symbols and print, sensory tracing, sorting, sequencing, patterns making and exploring shapes.

Research, by neuroscientist Dr Karyn Parvis, states that it takes 400 repetitions to create a new synapse in a child's brain unless of course it is done through play where it will only take 10 to 20 such repetitions.

Pre-numeracy skills, on the other hand, focus more on problem solving and reasoning. Problem solving and reasoning can be developed in children through activities such as active listening, modeling problem solving, motivating children to investigate causes and seek solutions.

Adults must allow children to be active participants in their learning journey and for achieving this it is important that teachers and parents step back when children make mistakes and attempt to solve problems.

Developmental Milestones in Early Childhood and Middle Childhood

Developmental milestones are tasks that children are expected to do by a certain age. These milestones can be pertaining to cognitive abilities, physical growth, socio-emotional development, language, and speech development and so on. These suggestive milestones help teachers and parents have age-appropriate expectations and create age-appropriate learning activities.

Some of the early language milestones in infants can be observed at the form of attentively listening, fol-

lowing voices in the room, babbling and humming. In toddlers this can be seen as progressively constructing sentences to express themselves, effectively communicate with others about personally meaningful experiences, object descriptions, events, and relationships. In middle childhood children communicate in complete sentences, clear speech, narrate incidents and events, learn new vocabulary, read stories, write with accurate spellings.

Numeracy milestones in early childhood are reflected through skills such as comparing attributes such as longer and shorter, bigger, and smaller, being able to arrange objects in a series or pattern. Some more examples are fitting one set of objects into another through trial and error, comparing quantities of two sets of objects and classifying as same, greater, or lesser. Another important concept in numeracy is space.

For example, filling up and emptying containers, assembling, and dismantling objects, observing pictures, drawings, places, people and objects from different spatial viewpoints, in middle childhood numeracy milestones are displayed in the form of understanding concept of numbers, addition, subtraction, complex shapes, backwards counting, concept of dates and understanding of time, months, and years. Even though milestones act as a guide for adults to assess and support children's journey, children don't necessarily follow the same rulebook. As having a milestone late or early doesn't necessarily point out to issues or problems. Every child is different, and they blossom at their own different pace. It is our duty as adults to provide a stimulating environment, encouragement and nurture our children.

Political correctness be damned: An insider's view on the design scene in South Asia

ANWESHA PAUL

'Seeing comes before words. The child looks and recognizes before it speaks.' These are the opening lines of John Berger's seminal work *Ways of Seeing*, clearly privileging sight over the other faculties. My attempt in this article, however, is not a philosophical treatise on what 'seeing' entails but a practical discourse on the issues plaguing the South Asian design community. 'Design,' and by that I mean a comprehensive rubric which encompasses visual, industrial and digital design, is something which had its formalized roots in Europe, notably Bauhaus amongst others. India with its ancient and rich culture of the fine arts never looked upon design as a separate discipline. It was all entwined and enmeshed as the arts and crafts. We did have a strong background of crafts, particularly in the fields of textiles, leather, woodworking and others, but in the absence of an industrial revolution here, structured and formalized design thinking, focusing on usability and ease of access had not been a priority in conjunct classifications or canon-formation that were necessarily undertaken in different phases of design evolution in India.

Personally my tryst with design started after attending National Institute of Design, when it still had one branch in Paldi, Ahmedabad. I was always inclined towards art in school where it had a subject called Commercial Art though I was not very good at it and language was my strong point. After doing well with English literature I stunned everyone by completely changing my area of interest and getting into design. Therein started my journey into this fascinating, ever-changing discipline. After completing my post-graduation my professional trajectory ensured that I had a taste of practically every kind of design formalization, from experience in production houses, to advertising, to a product design company, to design houses and finally a corporate. And in this more than a decade old journey there are some recurring motifs peculiar to the Indian design scene.

I find a woeful lack of verbalization of design thinking present in visual designers. I might put it down to the fact that mostly people are from Art colleges where the focus might be on different cognitive skills but the ability to explain the work in a language other than visual seems a trifle difficult for most visual designers, at least. This

ability to verbalize is, however, needed in a business environment where there are people from many different areas and backgrounds who will probably not understand the core or contextual issues or even have a developed visual sensibility, primarily because visual design is a skill. It is about how you see a faculty which not everyone has, if not consciously developed. The inability to translate the designs to verbal or logical terms often holds back progress for people, no matter how good they might be at their work. This also leads people to subtly and overtly discriminate between design and copy which was the case in advertising agencies. Ideas mean copywriter, whereas an art director was basically just a 'hands,' an agent to execute the copy ideas. Yes, advertising folks are not going to like this but I do know the ground reality. This was one of the main types of toxicity against which I railed in the ad agency. This was, of course, one amongst many others.

The lack of enough design colleges is another malaise. Thankfully it has grown exponentially, but ten years back when I got into the industry, most art professionals were people who just knew the software, more like a technician. India being such a socially and professionally stratified country, the respect afforded to a technician is much lower than one afforded to a 'writer.' Unfortunate but true. Yes, copywriters called themselves writers, perhaps subliminally countering the term 'art director' in the art section of the agency.

I remember in college, industrial designers had to submit a craft document detailing the various traditional handicrafts, their upkeep and the technical know-how of the skill among other such parameters. Perhaps, the industrial designers are a little better at translating their designs into intelligible verbal language. The visual designers however, despite their exposure to many classes in story-telling and communication probably did not take the same seriously enough being more focused on the visual aspect of things. This, of course, does not augur well for the later stages of their career. I am not speaking of everyone but a majority trend that is seen. There are, of course, exceptional designers with clear thinking and equally precise designs, but they are the exception here in India rather than the rule.

Design colleges in India also largely stay away from any political movement or involvement. Where



every arts and science college worth its name has bright eyed students well-versed in current affairs, those in design colleges usually maintain a diplomatic silence, enshrined as they are in their hallowed bubble. Student politics is a debatable topic and is certainly not being encouraged here but being completely isolated from the present does not make for holistic growth. Also, such a situation is not conducive to producing good designers since no product or service can be created or delivered in a vacuum, as it does the environment and its people as key players. You cannot design in silos. Learning about the context and designing the solution of the problem at hand is fundamental and key but often it is all but forgotten in favour of the visual attractiveness quotient.

Design houses, in my opinion, are the only ones which try to employ all the facets of thinking whether it is user interface or user experience. Here we come to the issue of developers. Again, few developers actually think of a product or like to address challenges. Frequently they want to just get on with the job without engaging with the project at a deeper level. This is rather like the attitude of the designers who just know the software because that is often their passport to a job. Conversely, the ones passionate about design often do not care about a job and the ones who want a job are the ones who learn the software for the job but aren't too keen on the aesthetics of the entire exercise.

A strange dilemma indeed! This might sound like a petty and incendiary account of my personal experience, but though it has its roots in the personal it is expected to be an objective assessment of the general design scenario in the region. Moreover, this

has not come about in a single day, but in about thirteen years of experience of working in India, Nepal and Rwanda and after interviewing countless candidates for visual design positions. This is not an attempt to put down anyone but it is intended to be an honest and hard look at the design community in the light of certain entrenched mindsets and in the very real hope of bringing about fresh perspectives vis-a-vis the same. The fact that there are so many design colleges now as opposed to a decade ago bears testimony to the fact that design is universal, that design in an essential need and India is in dire need of good designers and clear design thinking.

The internet, social media and easy accessibility have not only opened up new disciplines like user experience design and user interface but they have also brought exposure to what is happening in the larger world, the trends, the looks of the year et al. The downside to this is everything is homogenized. Most corporate illustrations follow the style of the season. Though we work for different brands somehow everything ends up looking the same, like all the flyers and high-ways in the major Indian cities. Examples of new and fresh visual language are few and far between. Even when designing the brand identity for Indian companies or digital products for companies in a different country, there is scarcely any distinguishing factor. I have hardly seen works which would define them as Indian or make them stand out for their uniqueness. Though design is getting more egalitarian it is also becoming progressively homogenized and that is something we must guard against.

Even now the average man on the street thinks we do lamination and 'design,' or someone slightly more well-versed immediately quips "fashion designer!" Kudos to the fashion designers, though for making the term 'design' synonymous with their craft. People en masse think, or at the very least, used to think that design is a hobby, something which bored kids do and often people, who I know from childhood comment on how professional my work looks. Duh! It has to be right! For the past few generations, the idea of having a profession worthy of respect has been limited to those of doctors, lawyer, engineer and a few others. Recently Management students have managed to break into this holy bastion; hence I do not blame the less 'woke' people for their misconceptions.

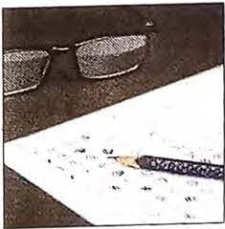
In Bengal due to its fondness for culture, painting and the allied arts do not get such a rough end of the stick. Most Bengali children are reared in one of the arts, be it singing, dancing or painting. Art teachers are in demand but much to my chagrin and utter sadness, quite a few of them have managed to turn something as creative as painting into rote learning. This is how you draw a rose and lo behold my teacher shows me a particular way, which was almost like formula. I had a ferrada for a dog, as well, and the hackneyed hills and sun. It can almost be patented by the Indian schoolchild. So it is a peculiar problem, we love our culture but the culture to think fresh and anew is not part of it.

Another problem which designers face is the idea of doing things for free. Often friends and family members will badger the poor harassed designer for a logo design or an illustration to be done pro-bono because, of course, everything is a one hour job and no one has any money. In lieu of money one is promised the illusory 'exposure'. The thing is even after thirteen years in this field I get such requests and honestly, I shall be none the worse without that 'exposure', though I'm the first to admit I still have a long way to go and many things to learn along the way.

When a culture has moved above the basic needs of health, food, shelter and education can it celebrate the arts. The art forms (performative or otherwise) often bear testimony to the advancement of the particular civilization. As long as we are stuck in rote learning and in confining the arts to the bin of 'time waste', 'time pass' and hobbies, I do not see any future here. We as artists and designers, for our part, should not help perpetuate the stereotype of the 'poverty stricken artist' by accepting less than what is deserved. Whether it is art or design, our thought and skill should be paid for. Also art materials or design software are amongst the most expensive, so where the building blocks, don't come free, I fail to understand how people want work pro bono. I understand doctors and lawyers working pro bono by choice for the economically disadvantaged people, but the people who do want an identity/logo/illustration to be created, generally do not fall into that lot. It is something which Elon Musk had once said about engineers which I feel holds equally true for designers. (I am paraphrasing here) that the men in suits make the money by selling what the engineers have made without understanding anything of what the engineers have made. He wanted to change that, and you my fellow designers should also want to change that with regard to the domain that we serve and respect.

CUET: Failure of testing agency

The University Grants Commission's proposal to hold a single nationwide test for admission to central universities was widely welcomed earlier this year as a measure to simplify the admission process and reduce students' tensions. But when the proposed test, called the Central Universities Entrance Test (CUET), is being conducted in phases since last month, it has raised too many questions and created fresh tensions for many students. There were glitches of various kinds in the conduct of the test from the first day on July 15. These included server failures, delays in issuing admission cards, mix-up of questions, and misleading information on examination venues. In some cases, question papers were not uploaded on time. Some candidates were given dates that had already



Agency's bungling has marred conduct of CUET

passed. A number of students across the country were not able to take the examinations for these and other reasons. Exams have been deferred for thousands of students who were affected adversely by the problems. These have led to much criticism of the National Testing Agency (NTA), which conducted the tests.

The tests have been rescheduled for thousands of affected students. According to the original schedule, all phases of the exam were to conclude on August 20. The rescheduling will result in delays in admission

procedures for the courses, and the process will now be over only in September, if there are no further delays. Academic schedules had gone topsy turvy in the last two years because of the Covid pandemic. They are going to be affected this year due to the bungling in the conduct of CUET. The rescheduled tests are expected to be held this week. The NTA has announced a grievance redressal platform, and the UGC has announced that every problem that the candidates had would be attended to.

The NTA had first tried to shift the blame to the examination centres, saying that they did not comply with the protocols. But the details of the snags showed that the bungling occurred at the testing agency. UGC Chairman Jagadesh Kumar has even said that there are indications of 'sabotage'. The NTA has conducted other examinations like the Joint Entrance Examination-Main and the National Eligibility and Entrance Test before, and the scope of the CUET may be further expanded. If the agency cannot conduct the examinations without hitches, it will lose its credibility and create more stress for the students. About 1.5 million students had applied for the test which was held in over 550 centres, and the NTA should have been better prepared to conduct an exercise of that scale. Those who are responsible for the bungling should be identified and held accountable for the lapses.

24/8

Vision 2047 for K'taka: Sustainable, secure & innovation hotspot

PRASHANTH PRAKASH & NISHA HOLLA

Karnataka is one of the foremost states in India, whose state economy currently ranks third in the country. The state has risen as an exemplar of harnessing 21st century growth engines using technology to drive socio-economic growth and development. The state is well-placed to become a Rama Rajya by 2047 with world-class development models and focused investments by successive governments.

A look at the state's demographics indicate an ageing population. Its total fertility rate is currently 1.7, which is below the national average of 2.0. Global consensus has placed the replacement rate for emerging economies at 2.3 and for the developed world at 2.1. Karnataka's population is already below replacement, barring immigration, which means that its current population of 6.66 crore will peak close to 7 crore in the 2030-2034 timeframe and reduce to 6.58 crore by 2047. The percentage of the population above 60 years of age will increase rapidly. Therefore, demography-wise Karnataka will soon resemble a developed nation and will require an adequate social security net.

On the economic front, models point to Karnataka's nominal GDP reaching Rs 333 lakh crore or US\$ 2.12 trillion in 2047. This is considering a 3% depreciation of the rupee against the dollar and an economic growth at 8.5% CAGR. India after economic liberalisation grew from \$275 billion in 1991 to \$3.16 trillion in 2022, at 8.2% CAGR. While it is not far fetched to expect Karnataka to grow at this rate, maintaining this growth will require consistent investment and sound policies by successive state governments.

With explosive economic growth and levelling of its population growth, Karnataka's per-capita GDP is set grow 8 times by 2047. From \$4,060 in 2022, it could rise to \$32,200 by 2047. This is, indeed, possible as already today, 66.3% of its economy is driven by the services sector with high value-add opportunities, consistent employment growth, and myriad expansion capabilities. The services sector in 2047 may grow to 75% of the state economy, with the balance 8-10% coming from agriculture and 15-17% from the industry sector.

Bengaluru is the jewel in the crown of Karnataka, contributing to a significant part of GSDP and taxes; its per-capita income is the highest among India's cities. The city's ecosystem ranks among the top 5 in the world for innovation, technology development, research and development, and human capital. It leads India's IT, biotechnology, science, avionics, and space industries; in essence, is the Hi-Tech and Innovation capital of India. In 2047, Bengaluru will also have cemented its place as a global hub of innovation.

Moreover, Bengaluru and Karnataka have the potential to be the global model of an accelerated-growth strategy that is based on data analysis, the latest technologies, innovative urban planning, sustainable solutions and collaborative governance.

Clusters for sustainability

Karnataka must now invest in a vision to transform at least 10 new urban clusters and broad-base its economic growth. This will help sustain the state's growth momentum. This vision calls for a balanced urban development by holistically leveraging the principles of density, proximity, and accessibility. The urban clusters are seen as potential regional drivers of economic growth as they harness the economic potential of neighbouring centres, and support the growth of domestic and international hubs. Integrating high-speed infrastructure for interconnectivity between clusters will further strengthen this regional development.

As these clusters develop and reap

the benefit of economies of scale, they will strengthen their position as critical nodes, in turn contributing to the continued success of the economic corridors of the state. The economic corridors work on the principle of linking production centres, urban centres, and international gateways for export to facilitate efficient trade and investment. Improving access to markets by easing bottlenecks will help enhance the overall productivity and competitiveness of the region. The vision of these ten urban clusters presents an opportunity to synchronise Karnataka's urban ecosystem and usher in a dynamic urban planning paradigm.

Urban expansion must go hand-in-hand with principles of sustainability. Karnataka must accelerate net-zero and water neutrality goals. Continued economic development means, for a period, certain pollution markers will increase. Initiatives of both the government and industry, and their successes must be tracked like the processes in mission-oriented war rooms. Scientific measurement protocols support phased adoption and measurement of performance against the goals set by the state, which will help the state to stay on course to achieve sustainable development.

Upgrade education

Ranked at the top on the NITI Aayog Innovation Index, Karnataka's USP and core competence are its innovation and human capital. The state must protect, consolidate and secure its position for the future. It already houses the largest number of MNC R&D centres and research laboratories in the country. Looking ahead, we must upgrade the old, and build new, academic institutions specially focused on emerging technologies and research translation. This will help further the state's credentials as India's innovation hotspot.

Education and specialisation are two of the foremost drivers of human capital, innovation, and R&D. With the right policies and capacity building efforts today, all children in Karnataka in 2047 could expect to graduate from Class XII. About 75% of them could obtain a higher education degree, and the Gross Enrollment Ratio could rise to 70% in the 18-23 age bracket. Karnataka could produce 20,000 PhDs annually in its world-class institutions, and these graduates could work in the state-of-the-art research innovation ecosystem that Bengaluru already houses today.

Social security

Karnataka must focus on a comprehensive social security net for its vulnerable and ageing population. A pension system for different groups — old age, widows, and others — can be consolidated and disbursed from a single programme. Ayushman Bharat can be leveraged for complete healthcare. The state must also work with civil society to weave old-age care into the fabric of the society, giving this segment a reasonable opportunity to live with dignity. With a declining population, a rise in nuclear families and increased mobility of youngsters, care for the elderly may become a daunting issue if the state does not act fast to institute a safety net.

Karnataka in 2047 will have world-class healthcare facilities in every one of its 30 districts, with a high-quality tertiary care in major urban areas. A multidisciplinary hospital with an attached medical college in each district will deliver state-of-the-art healthcare to people living in its districts.

Primary healthcare facilities and wellness centres will be within reach of every citizen in each taluk.

This vision of Karnataka 2047 is certainly achievable. It needs detailed strategies, focused investment, and improved governance.

(Prashanth Prakash is Chairman, Vision Group on Startups, GoK and Nisha Holla is Technology Fellow, C-CAMP)

The Indian ecosystem must seize responsible innovation, before outsiders can foist their version of it

Start Up and Smell the ESG



Johannes Lenhard & Hannah Leach

KfW Capital in Germany, Tesi in Finland and AP6 in Sweden. Several industry initiatives have begun to further push the issue forward and define best practices and reporting. The UN-supported investors' network, Principles for Responsible Investment (PRI), is strongly committed to this space, too, and working on a standardised LP-VC due diligence questionnaire (DDQ), among other things. Service providers have sprung up left, right and centre as well.

In India, the most prominent parts of the ecosystem in the big tech hubs don't seem to have caught on to this shift yet. 2021 was still very much dominated by new Indian unicorns being celebrated and the media counting how many were added to the herd. While ESG reporting is becoming mandatory for the biggest firms in India from 2022-23, regulators are cautious to put pressure on investors.

Despite the global trend, sustainable investing (mostly in public equity) in India 'has only picked up momentum' recently, as ESG expert Akanksha Sharma stated in an ET interview in October 2021. Only a small number of deals are being done shifting reasonably small amounts of money (\$2.83 billion in 240 equity deals in 2020) against the size of the opportunity.

Sandeep Mertia, a PhD scholar at New York University in the US, has been conducting ethnography in Rajasthan's startup ecosystem since 2019. He explains, 'While unicorns grab a lot of headlines, we have to remember that a vast majority of startups working today [in India] are tech-enabled small businesses. The 'scale at all costs' approach is spatially highly concentrated among a tiny number of elite VC-backed startups in metropolitan hubs.' Mertia further elaborates how these unicorns in India are also starting to be scrutinised on ESG causes, such as in the recent case of food delivery apps like Zomato living off precarious gig workers.

Overall, Mertia is convinced that

Last month, The Guardian in Britain published 'The Uber Files', more than 124,000 confidential leaked documents that reportedly revealed how the taxi hailing app company bent the laws in several countries and secretly lobbied governments including US, German and British. They also contained some juicy details about the car hire giant's leap into India. Not only did the files reportedly reveal that Uber dodged law enforcement explicitly in India, but co-founder Travis Kalanick apparently pushed the top regional executives forward to drive growth 'at all costs'.

Growth at all costs — the blitzscaling unicorns mindset so prominent since 2010 — could barely be epitomised better by a single company. But, in recent months, the tide has been moving away from this attitude towards building startups in a more sustainable, responsible and inclusive way ESG (environmental, social and governance), a practice big corporates as well as buyout funds have been engaging in for years, has started to influence the startup and venture capital (VC) ecosystem, too.

Boarding the Bandwagon

Particularly in Europe, this movement is largely driven by regulation — Sustainable Finance Disclosure Regulation (SFDR) and the EU taxonomy, in particular — and resulting pressure by limited partners (LPs) and asset owners, especially by state LPs, such as

While ESG reporting is becoming mandatory for the biggest firms in India from 2022-23, regulators are cautious to put pressure on investors



FILE PHOTO

Stay awake, stay ahead

'India and other emerging markets are 'leapfrogging' the teleological stages of techno-economic growth... In Rajasthan, for instance, because of the existing regional economy in the crafts sector, many startups have come up with ideas and apps to digitally scale the market for existing products [without disruption]. The Indian startup ecosystem is a large and expanding space for reassembling different values of sustainability and scale.'

Home-Made Recipe

In fact, seeing the movement for responsible innovation, ESG and impact being pushed more from the bottom up — from entrepreneurs and local communities rather than implemented from the top — will prevent some big problems. Rolling Western ESG standards and principles into developing economies, including India, could be seen as a 'hegemonic' endeavour. Locally inventing and using a different measuring stick are only right.

There are already some signals in the Indian VC market. Unlike its behemoth counterpart Silicon Valley that has mostly been quiet on everything ESG, Sequoia India, one of the biggest VCs in the country, published a position paper in April on the issue of good

governance after four companies that its US mother ship had invested in came under the scanner for alleged financial irregularities.

So, how seriously are VCs taking a push for ESG more widely? As a November Nasscom report, 'The Next Big Leap' Towards ESG Maturity in Tech Sector', found, employees — in VCs and startups alike — increasingly care, as do customers, even in global conglomerates about strict ESG requirements.

The global sweep of ESG, or 'responsible innovation', for VC will also surely sweep over India. People in the ecosystem — from LPs and VCs to founders — have an opportunity in front of them right now.

So, do you want to embrace the movement proactively and shape it, make it your own with local values and initiatives on board and lead the way? Or do you want to wait until a movement driven by big Western VCs and LPs based on their understanding of the market and value system possibly sweeps you off your feet?

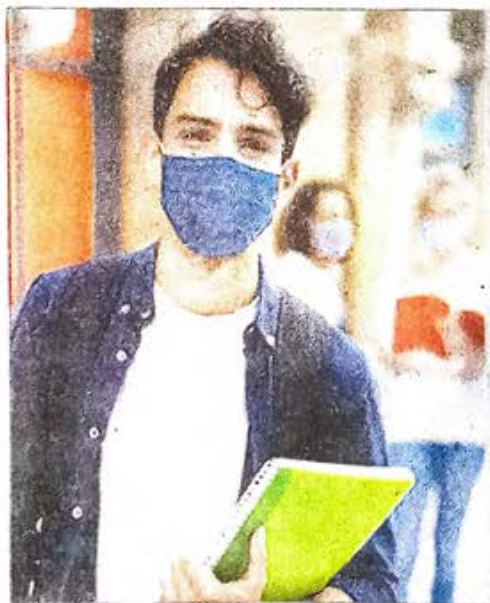
Lenhard is research associate, University of Cambridge, UK, and co-director, VentureESG, and Leach is partner, Hothigh Street Ventures, and co-director, VentureESG

Sigh of relief for students

Indian students studying in china can now go back to complete their courses

That china has resumed issuing visas to Indian students after two years must be a big relief for the Indian students studying there. Thousands of students had to abandon their studies as covid struck and they were made to leave the country. Since then their studies have been in limbo as China refused to take them back. In fact, 23,000 odd medical students studying in China are still waiting here to go back to their respective universities in China. They had staged several dharnas and even demanded the government of India to allow them to complete their studies in Indian universities but that did not happen as rules do not permit it. Now that China announced its plan to issue visas to Indian students stranded here since their return two years back when COVID was at its peak and strict restrictions were imposed by China on foreign students. Now that COVID has wained it is also allowing Indian travelers for

other purposes including business. China's relaxing of the travel rules would mean that X1-Visa, will be issued to students to not only the students already enrolled but also new students. After much deliberations and insistence of MEA China agreed to issue visas to Indian students studying in China on a case-by-case basis and sought the names of those wanting to return immediately to pursue their studies. The new students would have to show an original admission letter issued by a university. The old students however can submit a 'Certificate of Returning to Campus' issued by the university in China. Over 1,000 old Indian students have expressed the wish to return to re-join their studies. Two further facilitate the travel



Indian and Chinese officials are preparing a plan to resume flight operations.

This may end the woes of Indian students studying in China but the career of those students who were studying in Ukraine still remains uncertain. They have been running from pillar to post to convince the government of India to let them complete their studies in Indian universities which rules do not permit. The government of India should come up with a comprehensive plan for Indian students studying in foreign countries if their studies are interrupted due to no fault of theirs such as a pandemic or war. Most of these students are from middle-class families whose families have spent their lives saving to get their children good education abroad. The rules must be changed to allow these students to complete their courses in such exigencies.

Aurobindo's task of awakening spiritual India (II)

Sri Aurobindo felt that the main reason for the misery of man was his spiritual unconsciousness

After coming out of the jail, Aurobindo gave a speech in a spiritual conference in Utopeda near Kolkata, now famously referred to as the Utopeda speech in which he clearly explained experiences and insights gained during his stay in the jail.

He said, "Going to the jail and coming out of it were both a part of an existential plan. The purpose of jail life was to detach me from my strong attachment towards politics." His speech also related the vision he had of Lord Krishna in which Krishna had said, "India's main problem isn't political, it's spiritual. The prevailing foreign interference is simply a consequence of the spiritual cowardness and lack of spiritual fervour. You'd have to revive and re-establish the authentic spiritual values of



SWAMI ANAND ARJUN

(The author is a spiritual teacher.)

Hindu wisdom in the world."

It was his prison experience that propelled Aurobindo to take the bold decision to abandon politics in order to continue his spiritual journey.

The chief disciple of Swami Vivekananda, Bhagini Nivedita, had become Aurobindo's political and spiritual assistant. She told him that the British were planning to re-arrest him and advised him to leave British India. It was Swami Vivekananda's love for Aurobindo that manifested in Nivedita's words. He got similar guidance from his inner self as well. Immediately he left Bengal for the French colony of Pondicherry in South India via Chandernagor and arrived there on April 4, 1910.

In ancient times, the mystic Agastya Muni of North India

had also made Pondicherry his last destination. It was from there that he had propounded Vedic culture in South India. In Ramayana, there is a beautiful description of how Ravi had met Agastya Muni.

In its initial days, the Ashram was very poor and Aurobindo lived there with three other seekers. There was only one lamp there under which all the activities were carried out once it got dark.

In 1912, Aurobindo wrote a very poignant letter to his friend, Motilal Roy, which depicted the state of poverty in the Ashram. The letter read, "There is only half a rupee left, while six-seven people are here. Immediately send us 50 rupees."

In 1914, French couple Paul and Missa Richards arrived in Pondicherry. Later the same



Missa Richards became known as the Mother. As soon as she saw Aurobindo, she realized that he was the same Yogi that she had been seeing in her visions throughout her life. Every Sunday, the Richards invited Aurobindo and his disciples for dinner. That was the only time in the week they would get to eat a full nutritious meal and drink fine French wine.

Despite his high yogaic state of consciousness, and unlike

most Indian yogis, Aurobindo used to eat non-vegetarian food and drink alcohol. As he came from a Bengali family and grew up in the West, this was a normal practice for him. Ramakrishna and Vivekananda also came from Bengali families and used to eat fish regularly as a part of their diet.

Even today, fish is accepted as a part of the daily meal in Ramakrishna Ashram. A devotee of the South Indian enlightened master, Ramana Maharshi, a contemporary of Sri Aurobindo, had complained to him about Aurobindo's consumption of meat and wine. Ramana had instead praised Aurobindo, "He was born in a Bengali family and grew up in the West, that's why he has such eating habits. Don't evaluate a yogi through his habits.

Aurobindo is in a very high state of yoga."

Later, Aurobindo, seeing that non-vegetarian food and alcohol was hindering his spiritual practice, quit both and turned vegetarian. Today all the Aurobindo Ashrams are fully vegetarian.

In 1910, the Mother divorced her husband and started to live permanently in the Ashram and took the full responsibility of running it. After this, Aurobindo confined himself in his room, while 24 November is celebrated as the Siddhadday of Sri Aurobindo. It was on this day of 1926 that the suprased consciousness descended on him.

Aurobindo left his body on December 30, 1950. He was buried four days later in the Ashram compound.

Aurobindo had refused the post of the president of the Indian National Congress in 1927 and later refused to become the first President of Independent India. Aurobindo felt that the main reason for the misery of man was his spiritual unconsciousness and made efforts throughout his life to uplift human consciousness and to make arrangements to descend the suprased consciousness to the earth.

In the last 24 years of his life, Aurobindo came out of his room to give darshan to his disciples only four times a year. The time he spent alone in his room is steeped in mystery. He says, "Meditation is for those who can come out of the society and the world, and travel the lonely journey towards the unknown.

20/1 (Continued)

Agent for mainstreaming learners

'Humana People to People' has been on a spirited mission for nearly two decades to bring left-out children back into the fold of education

Nexus of Good



ANIL SWARUP

Humana People to People have attempted to address one of the major issues, out-of-school children (OOSC) that besets school education. They have succeeded substantially in the regions that they have worked and they are scaling their effort. Hence, they richly deserve the Nexus of Good Award being given to them.

It was 2017. I had taken over as Secretary, School Education, Government of India, a few months ago. I was on a visit to a government primary school in Haryana. The sight was an incredible one. This was not a typical set of children in a school. They were neither of a similar age nor in school uniform, and yet, they appeared extremely keen and eager. A couple of adults in the room were, also, not the usual teachers, as I walked into the room along with Snorre Westgard and BR Sinha. These two gentlemen were tasked to manage the work of Humana People to People in India. I was subsequently informed that the children in the room were out-of-school children. An effort was being made to mainstream them. The children in the room had either dropped out or never been to a school, and each had a different reason for doing so.

In 2005, Humana People to People India (HPPPI) decided to address the challenge of the OOSC, especially those living in slums, urban and semi-urban areas. The project was initiated as 'Academies for Working Children', and varied from a handful of children seated on a durrrie (mat) to proper class-rooms in rented buildings. From 2005 to 2015, around 15,000 children benefited from these 'academies'. While around 50 per cent of the children were mainstreamed in government primary schools at some time during their education, the project was 'independent' of government and was dependent on full funding from private contributions, which limited the scale of the programme.

With the Right of Children to Free and Compulsory Education Act (RTE) in 2009, an idea emerged for developing a pedagogical and operational



Children spend 70 per cent of their time on NCERT-defined competencies, and 30 per cent on theme-based real-life learning

model that was aligned with the RTE Act and the specific Ministry of Education (erstwhile, Ministry of Human Resource Development) programme for OOSC under Sarva Shiksha Abhiyan, now, Samagra Shiksha. From around 2013 to 2015, the teaching-learning materials, tools and techniques were developed and designed, and the model was piloted on a very small scale in different CSR-funded projects. The attempt, now, was to develop a strategy based on public-private partnership and scale up the out-of-school programme.

The first large-scale programme with 2,000 children was implemented in cooperation with Bharti Foundation and RSK Madhya Pradesh in the session of 2015-2016 in two of the state's tribal districts, Bharwari and Jhabua. After the initial success in Madhya Pradesh, in July 2016, an agreement was signed with Educate a Child - a programme under The Education Above All Foundation, Qatar - for mainstreaming 30,000 children in Haryana over three years. In October, the same year, an MOU was signed with the State Project Office of the Department of School Education in Haryana. The Department committed to pay for the Kadam Teachers (Education Volunteers) and the printing of the Kadam toolkits for each child. These contributions by the state took off during the second year of the project. By July 2019, the project had enrolled over 40,000 children and successfully mainstreamed over 34,000 children, after closing their learning gaps. An assessment of the main-

streamed children showed that over 90 per cent stayed in school, and performed average, at par with the other children of their grade.

In 2017 and 2018, the regional workshops organised by the Ministry of Education enabled HPPPI to present the Kadam model in four of the five regional workshops and discuss extensively with states. This gave a boost to the Public Private Partnership Model and resulted in Memoranda of Understanding (MoUs) with Chhattisgarh, Maharashtra, Uttar Pradesh and Jammu and Kashmir. A model for bridge education was also developed under the name of Kadam+. This approach for remedial learning and bridge education for in-school children has reached out to 1,08,987 children in Madhya Pradesh, Uttar Pradesh, Bihar and Jharkhand. The partnership between HPPPI and Haryana for out-of-school-children was extended for the second phase in 2019, for yet another three years; and till July 2022, a total of 82,024 children have been integrated at age-appropriate grade level after closing their learning gaps.

Identification of OOSC is where it all begins. It is perhaps the most challenging part as well. Areas with a large number of OOSC are identified and the catchment area of the Gram Panchayat Samiti in that area is defined. The Kadam Teacher starts with a door-to-door household survey, mapping all OOSC in the catchment area of the school. The teacher mobilises the children and the parents to enroll in the school. The school allocates a class-room,

a veranda or a corridor for the Kadam Centre (a Special Training Centre). The Centre ideally runs for 9-11 months. The Government Primary School (GPS) is involved in the programme. The Head Teacher supervises and supports the Kadam Teacher and the activities. The Kadam Teachers are organised in groups of 10, who meet weekly and share experiences and collect data for the online Management Information System (MIS). Once a month, a bigger meeting with all Kadam teachers in a district is organised. The District Project Office for Samagra Shiksha leads the operation in a district, with support from a HPPPI District Organiser.

A baseline determines the entry step, and their age determines the end goal for the exit step. Each child has an assessment card called TinP Card - Tracking my Progress Card, which makes the progress of the child visible to him / her as well as the other stakeholders, including teachers, parents, BRPs, etc. The children in the Kadam programme work in groups of three, called trios, and spend 70 per cent of their time doing exercises that are closely linked to NCERT-defined learning competencies. In all, the programme is significantly based on 540 competencies and 10 steps across five grades and four subjects. The competencies and the corresponding exercises are organised in a logically progressive manner so that the children learn by constructing new knowledge based on the previous one, and moving at their own pace up through the desired competencies and the

steps. In the remaining 30 per cent of their time, the children are engaged in theme-based, hands-on activities which provide them with real-life learning. A monthly theme headline determines the scope of these activities which, at the end of the month, culminates in Children's Day. Once a month, the parents are invited for a parent-teacher meeting. Engaging with parents is an important component of the programme.

During the closure of schools due to the Covid-19 pandemic, the Kadam Programme for out-of-school children and the Kadam+ Programme for in-school children moved to the homes of the children. The children met in smaller groups in their homes and the Kadam work-books were a great help to keep the education going. The teacher could visit the groups 2-3 times a week and sometimes also communicate using the WhatsApp messenger or video where this was available among the children. While the results were not as good as when the children attended school or a special training centre, the children that carried out the Kadam Programme at their homes, continued to learn and achieve significant learning gains during the school lockdown.

National Education Policy's (2020) Chapter 2, 'Foundational Literacy and Numeracy: An Urgent & Necessary Prerequisite to Learning' and Chapter 3, 'Curtailing Dropout Rates and Ensuring Universal Access to Education at All Levels', emphasize the importance of ensuring access to education for children those are out of school, and that all children actually learn in school. Teaching and learning have to be purposeful for the learner as it equips every student with the knowledge, understanding and capacities to be active participants in forming the future and in building resilient communities able to address the issues that face humanity today. NGOs like Humana People to People demonstrate that issues relating to OOSC and foundational learning can be addressed substantially through public-private partnerships.

Views expressed are personal

and /

During the closure of schools due to the Covid-19 pandemic, the Kadam Programme for out-of-school children and the Kadam+ Programme for in-school children were taken to the homes of children to help them continue learning

Holistic approach for education revamp



BKP SINHA

Holistic education is the only way to bring about a lasting change, in fact it is the only way that can change the world for the better

Nelson Mandela has rightly said, that, "Education is the most powerful weapon we can use to change the world". It is a stairway to the growth and development of humankind. The right to education must be universal so that everyone can pursue a better future. However, the right to education is not only the right to access education but also about receiving quality education.

Quality education fosters the knowledge, skills, and values required to create a fairer and more sustainable world. According to Education International and the Association for Supervision and Curriculum Development, quality education "is one that focuses on the child's overall development - social, emotional, mental, physical and cognitive, regardless of gender, race, ethnicity, socioeconomic status or geographic location." We now realized that education alone will not lead to a sustainable future, therefore, learning about sustainable development (SD) is necessary. Target 4.7 in the 2030 Agenda for SD, emphasizes the importance of transformative education - that promotes global citizenship, sustainable development, human rights, gender equality, peace, and cultural diversity.

It is a holistic approach and is often depicted as three overlapping circles: ecological, social, and economic — to demonstrate the interplay between all parts of life and the need for their equal consideration to find lasting prosperity. But we generally have a unidirectional approach towards sustainability based on our predisposition. To comprehend basic principles of ecology, one must think holistically about relationships, connectedness, and context to realize the intricate interdependence and often unpredictable dynamics of ecological, social, and economic systems. This shift of focus from analytical thinking (parts) to contextual thinking (whole) is a prerequisite for building a more resilient world. It is regarded as a critical ability in education as it enables students to



untangle and work within the complexities of life on Earth.

Integration of education for sustainable development (ESD) into teaching and learning can help in the realization of quality education, which is critical to fulfilling many of the sustainable development goals (SDGs). It is also essential for addressing other key issues, including, wasteful consumption, biodiversity conservation, and waste management. ESD is an interdisciplinary field that integrates concepts from multiple disciplines to understand how natural and man-made processes interact with each other and ultimately affect the various biomes on the planet. Adopting a wide range of participatory methodologies in education, is essential to change the behaviors and equip the current and future generations with the knowledge and skills they need to shape a sustainable future. These methodologies will allow them to develop problem-solving, interdisciplinary, and systemic thinking skills, which will help them learn, 'how to think rather than 'what to think within the context of sustainability.

In collaborative learning, students in small groups work together on a common goal to seek understanding and solutions. It fulfills the primary

EMERGING CHALLENGES SUCH AS CLIMATE CHANGE, PANDEMICS, AND DISRUPTIVE TECHNOLOGIES WILL NECESSITATE A WORKFORCE WITH CROSS-DISCIPLINARY SKILLS

purpose of education - nurturing responsible citizens who can work together to solve complex ecological, social and economic issues. Thus, working on collaborative learning projects at an early age can boost their confidence and help them develop critical thinking, positive interdependence, diverse understanding along with various other social skills such as leadership, decision-making, communication, trust-building, conflict management, and a sense of ownership. Integration of ESD at all levels requires a systemic change in all kinds of textbooks, including science, math, social sciences, humanities, etc. Only a few degree programs in India provide students with employable skills. However, emerging challenges such as climate change, pandemics, and disruptive technologies will necessitate a workforce with cross-disciplinary skills.

Teaching ESD requires knowledge of several disciplines that is generally beyond the teachers' expertise. Reforms of this magnitude, however, will not be possible without effective policies, operational frameworks, political will, financial assistance and stakeholders' cooperation. National Education Policy 2020 is the

first education policy of the 21st century, which aims to align the education system with SDGs and make education holistic, inclusive, multidisciplinary, learner-centric, inquiry-driven and experiential. It will hopefully shift humanity back onto the right path of development and secure the future for the coming generations. Although, the successful implementation of this policy will not only diversify India's global image but also make the education system at par with the best in the world. Our collective responsibility to improve the quality of education is essential for achieving the ambitions of Agenda 2030. However, "we stand now where two roads diverge. But unlike the roads in Robert Frost's familiar poem, they are not equally fair. The road we have long been traveling is deceptively easy, a smooth superhighway on which we progress with great speed, but at its end lies disaster. The other fork of the road - the one less traveled by - offers our last, our only chance to reach a destination that assures the preservation of the earth."

(The author is an advisor to Amity School of Natural Resources and Sustainable Development, Uttar Pradesh)

School amalgamation

The State government's move to close down and amalgamate 2,500 schools has met with stiff opposition from different quarters. The three main grounds cited for the closure or amalgamation of schools concerns existence of schools in close proximity, poor enrolment and non-performance. While the first two factors sound logical – even though the trend of poor enrolment can be addressed through an appropriate mechanism – the move to close down schools due to their poor performance is questionable. The State government is mandated precisely with the task of running these schools professionally and improve their functioning in the event of unsatisfactory performance by the students. Closing down a school just because it is performing below par cannot be the answer to the problem. Schools are inalienably linked to the development of human resource and taking recourse to the easiest way of closing down a school just because it is not performing well in terms of results cannot be acceptable. It is for the State government, the education department in particular, to assess the situation and identify the ills behind the bad showing by such schools. The next step is to follow up with the required interventions to put the schools back on the rails. Indeed, the plummeting standards of government-run schools have emerged as a serious issue with wider implications for our social life that has been left un-addressed. The government schools that were once synonymous with quality education witnessed a downward slide since the 1990s. The period also coincided with a growing penchant for English medium education among the State's middle class. The slump suffered by government schools continued, and their qualitative aspects – the real test of any education system – have not witnessed any improvement despite interventions like the Sarba Shiksha Abhijan.

The falling standards of school education have been laid bare by various periodical assessments every year. So, something is drastically wrong with the manner in which education is being imparted to our schoolchildren. While a lot is often said about infrastructure and economic constraints of our schools, what has not got adequate highlight is the total lack of discipline in many of our educational institutions. When teachers' attendance is highly irregular, it does not merit any surprise that the students should also be exhibiting a similar trend in attendance. Unless teachers treat their job of teaching as something sacrosanct and deliver professionally, it will be difficult to stem the rot in our government schools. The State Govt, too, has to play an equally important part in making the schools function professionally and with accountability. It is apparent that this crucial aspect has continuously been ignored by the government, allowing the schools to fall into an abyss. We have seen how a near-impossible turnaround has been achieved in New Delhi where Govt schools have been brought back from the brink due to the pragmatism and sincerity of purpose exhibited by the AAP government. We need a similar approach by the Assam Govt to bail out the ailing school education sector.

The wrong kind of clean-up

Undoing the rot in India's sports governance requires work at the bottom of the pyramid



NANDAN KAMATH

MUCH OF THE recent action in Indian sports has been in the courts instead of on the courts. The judicial push for reforms in various sporting bodies—football, hockey, table tennis and the Indian Olympic Association—has understandably received mixed reactions. There has been hope and optimism on one hand, and confusion, disruption, and a FIFA suspension on the other. The battle is not new and the judiciary is not the ideal arbiter of sports governance standards. But here we are and, frankly, if you leave the goal scoring to the goalkeepers you shouldn't complain about the quality of their finish.

At the heart of the controversy are differing conceptions of what "democratic" decision-making in federations looks like, the challenge of overly entrenched interest groups in governance structures, and the belief that athletes must be given a powerful voice in sports administration. These issues converge on the questions of who should be members of sports federations and have the right to vote in and stand for elections in these bodies.

The autonomy of international and national sports federations is a vital pillar of the sports movement. This status enables sports bodies to act independently through their own democratic structures, free from governmental and external influence. Without this protection, their decision-making might be subjected to political and other considerations and this would make it challenging for them to give sporting interests the primacy that is essential.

That said, autonomy is not the antithesis of public accountability. The latter becomes vital when federations acting as monopolies and monopsonies are carrying out what are "public functions". This has led to various national legal systems bringing regulations to enforce their notion of good governance. The Indian version is the National Sports Development Code, 2011, fondly known as the Sports Code.

The Sports Code assembles dozens of government notifications issued over a few decades, and interpreting its provisions is not a task for the fainthearted. Its contents have been recognised by courts as administrative directions that are binding on federations. It provides the minimum standards that a sports body must comply with to retain the sports ministry's annual recognition. Such recognition enables it to continue to enjoy the privileges that come with this designation, including fielding national teams, using national symbols, and receiving government funding.

The most controversial aspect of the judicially driven proposal at the AIFF, also incorporated into the IOA judgment in a similar form, is the nomination of 36 "eminent" former players as members of the general body alongside the 36 representatives of the state football associations. In addition, the proposal was to have former athletes populate at least 25 per cent of the elected executive committee seats. These outcomes are not per se in violation of either the Sports

Code or the Olympic Charter. However, the way in which these athletes are to be chosen (and in the case of the AIFF, the fact that they were identified according to criteria specified by the committee of administrators), and the sheer proportion of athletes that would populate the general bodies of these organisations lead to questions being asked, and not just from those enforcing the FIFA Statutes. Unless there is a change in course, scrutiny of the International Olympic Committee regarding compliance with the Olympic Charter is inevitable.

Placing a large number of athletes directly into the general bodies and boards of federations was an approach that the courts and their committees of administrators jumped on. With elections to be held, the underlying premise was that athletes were not adequately represented in the electoral colleges and that only such a radical reform would ensure representation of their voice. As the saying goes, if you aren't at the table, you are probably on the menu. It is a different matter that these athletes have been alienated from administration since the days of their youth and have little experience in sports governance.

The Olympic Charter has a provision for the election of athlete representatives as members of the National Olympic Committee and their boards. This involves the creation of federation-recognised athlete membership bodies that include both active and recently-retired athletes with the right to vote their representatives into membership and federation posts. It sets a minimum of two athletes as members and one as an executive committee member of the National Olympic Committee (that is, the IOA) but has no upper limit for either.

Athletes might end up as effective sports administrators. There is an equal chance that they will not. Their eminence on the playing field does not increase the odds of them being in either bucket. While "correcting" the rot in Indian sports governance, "quick fix" solutions might further muddy the waters. Work is needed from the bottom of the pyramid—to reconstitute district and state bodies that feed into the national sports governance pyramid. The focus of reform efforts must be on training sports governors and administrators, both athletes and non-athletes. Every district, state and national sports body must have athlete commissions and athlete representation of such bodies embedded in decision-making in reasonable numbers. It is attractive to start with reforms at the top. However, as we have seen repeatedly, the quality at the top of the sports pyramid, be it of athletes or administrators, depends entirely on what emerges from the bottom. With the IOA judgment holding that the Sports Code provisions are applicable right down the sports pyramid, the wind is certainly blowing in this direction.

These sports cases have reached our constitutional courts after years of governance lapses at the federations. More than the imperfect solutions that the judges have come up with to reorder these bodies, the inaction of the international federations and the governmental bodies along the way should be cause for greater concern. When the institutional checks and balances of sports governance are not working, not even the most brilliant eminent-athlete-administrator can be expected to turn the tide

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JES

प्रश्नों के घेरे में खड़ी परीक्षा

नई शिक्षा नीति लागू करने की घोषणा केंद्र सरकार ने अपनी एक बड़ी उपलब्धि के रूप में की थी। भिन्न-भिन्न अवसरों पर वह इसका प्रचार-प्रसार भी करती रही। शिक्षा जगत में भी इसे लेकर आशा एवं उत्सुकता का मिश्रित वातावरण रहा, पर सरकारी तंत्र की अनुत्तरदायी कार्यशैली के कारण उसके सुनियोजित-समयबद्ध क्रियान्वयन को लेकर आशाओं के बादल गहराने लगे हैं। सीबीएसई, एनसीईआरटी, यूजीसी के कामकाज के तौर-तरीकों पर तो पहले से ही सवाल खड़े किए जाते रहे हैं, अब राष्ट्रीय परीक्षा एजेंसी (एनटीए) भी सबालों के घेरे में है। शिक्षा एवं परीक्षाओं के आयोजन से जुड़ी इन संस्थाओं में व्यापक फेरबदल एवं प्रभावी-पारदर्शी-परिणामदायी कार्ययोजना समय की मांग है।

सत्र 2021-22 की परीक्षाओं में सीबीएसई ने ऐसे-ऐसे प्रयोग किए कि दसवीं-बारहवीं की बोर्ड परीक्षाओं के परिणाम में संयुक्त रूप से लगभग 11 प्रतिशत की गिरावट दर्ज की गई। प्रश्नों की रचना, परीक्षा पद्धति में बदलाव, परीक्षा के दौरान होने वाले कदाचार, मूल्यांकन में लापरवाही, ज्ञान एवं कौशल की तुलना में अधिक से अधिक अंक देने की बढ़ती प्रवृत्ति आदि को लेकर गत वर्ष भी सीबीएसई की कार्यशैली पर प्रश्नचिह्न खड़े किए गए और कुछेक मुद्दों पर उसे सार्वजनिक स्पष्टीकरण भी देना पड़ा। स्नातक पाठ्यक्रमों में प्रवेश के लिए आयोजित की जा रही 'कामन यूनिवर्सिटी एंट्रेंस टेस्ट' (सीयूईटी) तो अभी तक जारी है, जबकि पूर्व घोषणा के अनुसार इसे 15 जुलाई से प्रारंभ होकर 20 अगस्त तक संपन्न हो जाना चाहिए था। यूजीसी द्वारा जारी दिशानिर्देशों के अनुसार अब छठे चरण की परीक्षा 30 अगस्त तक खिंच गई है। दूसरे चरण यानी चार से छह अगस्त के मध्य जिन अभ्यर्थियों की परीक्षाएं स्थगित की गईं, उन्हें भी छठे चरण में ही परीक्षा में बैठने का विकल्प दिया गया है। बार-बार के स्थगन एवं परीक्षा-प्रक्रिया के बहुत लंबा खिंचने के कारण अब वर्तमान अकादमिक सत्र के नियमित रहने की संभावना क्षीण है। अब सितंबर के अंत तक ही विभिन्न केंद्रीय विश्वविद्यालयों एवं संबन्धित कालेजों में प्रवेश की प्रक्रिया संपन्न हो पाएगी। अक्टूबर से पूर्व नियमित कक्षाएं प्रारंभ होने के कोई आसार नहीं दिख रहे।



प्रद्य कुमार



परीक्षा स्थगित होने से आक्रोशित छात्र - एएनआइ

सीयूईटी के दौरान सामने आए कुप्रबंधन ने एनटीए की साख को बट्टा लगाया है। लगता है कि एनटीए ने परीक्षा व्यवस्था के सुचारु संचालन के लिए न तो पर्याप्त तैयारी की, न ही कोई टोस एवं विस्तृत कार्ययोजना ही बनाई। यकीन नहीं होता कि एक राष्ट्रीय स्तर की एजेंसी से भी ऐसी त्रुटियां हो सकती हैं। सीयूईटी की परीक्षा दे रहे बहुत से अभ्यर्थियों के प्रवेशपत्र अंतिम समय तक अपलोड नहीं किए गए, बहुतों के परीक्षा केंद्र अंतिम समय में बदल दिए गए और उन्हें चंद घंटे पूर्व तक उसकी कोई सूचना नहीं दी गई। अनेक अभ्यर्थियों को परीक्षा केंद्र पर जाकर जानकारी मिली कि उनका केंद्र बदल दिया गया है। ऐसी संस्थाओं को भी परीक्षा केंद्र बनाया गया, जो कुछ वर्षों पूर्व बंद हो चुकी थीं। कुछ संस्था-संचालक तो यह कहते पाए गए कि उनके संस्थान को परीक्षा-केंद्र बनाए जाने की पूर्व सूचना उन्हें नहीं थी या एक-दो दिनों पूर्व ही उन्हें बताया गया।

चार से छह अगस्त को जिन केंद्रों पर परीक्षा स्थगित की गई, उनमें से अधिकांश अभ्यर्थियों को परीक्षा केंद्र पर पहुंचने के बाद यह जानकारी मिल पाई कि उनको परीक्षा स्थगित कर दी गई

लगता है एनटीए ने सीयूईटी के लिए न तो पर्याप्त तैयारी की और न ही कोई टोस कार्ययोजना बनाई

है। कल्पना कीजिए कि ऐसी स्थिति में 150-200 किलोमीटर की दूरी से परीक्षा देने गई लड़कियों या टिचिंग अभ्यर्थियों को किन कठिनाइयों का सामना करना पड़ा होगा? राष्ट्रीय स्तर की संस्थाओं में न्यूनतम दायित्वबोध का ऐसा अभाव कचोटता है और तंत्र में ऊपर से नीचे तक व्याप्त छिद्रों एवं कमियों को उजागर करता है। सवाल है कि एक साथ अनेक राज्यों और कई-कई शहरों में परीक्षा स्थगित करने से पूर्व क्या परीक्षार्थियों को सूचित नहीं किया जाना चाहिए था? क्या स्थगन के तुरंत बाद या अगले दो-चार दिनों में परीक्षा की अगली तिथि नहीं बताई जानी चाहिए थी? क्या हजारों अभ्यर्थियों को कई-कई दिनों तक भ्रम और असमंजस में रखना उचित था? क्या कोई व्यवस्था या एजेंसी अपने ही नीतिहालों के प्रति इतना दुलमुल रवैया अपना सकती है?

सीयूईटी के दौरान तथाम परीक्षा केंद्रों पर परीक्षार्थियों को तकनीकी व्यवधानों का सामना करना पड़ा। कुछ विषयों के प्रश्नपत्र परीक्षा शुरू होने के बाद तक अपलोड नहीं किए गए। प्रश्नपत्र के प्रारूप और परीक्षा की पद्धति को लेकर भी अंत-अंत तक भ्रम और संशय का वातावरण बना रहा। आखिर पूर्व तैयारी, संपूर्ण स्पष्टता एवं पर्याप्त जागरूकता के अभाव में कोई भी नीति या योजना धरातल पर कैसे साकार हो सकती है? तंत्र और कुछ अर्थों में सरकार भी नीतियों एवं निर्णयों के टोस तथा जमीनी क्रियान्वयन, सुचारु संचालन एवं सूक्ष्म निरीक्षण के मोर्चे पर सतक और सजग दृष्टि बनाए रखने में लगातार कमजोर पड़ती रही है। शिक्षा से जुड़ी संस्थाओं की दिशा-दशा एवं अवस्था भी चिंताजनक है। सीयूईटी इसका ताजा और जीवंत उदाहरण है। नई शिक्षा नीति लागू किए जाने के पश्चात ज्ञान के क्षेत्र में भारत के एक बार पुनः विश्वगुरु बनकर उभरने का स्वर समय-समय पर सुनाई देता रहा है, परंतु पुनः विश्वगुरु बनना तो दूर आज उससे बड़ा एवं ज्वलंत प्रश्न यह है कि क्या ऐसी तैयारियों के बल पर शेष दुनिया के साथ हम कदम मिलाकर चल भी सकेंगे? यह वह प्रश्न है जिस पर न केवल गभोरता से विचार होना चाहिए बल्कि भविष्य के लिए सोच भी लेनी चाहिए।

लेखक शिक्षाविद हैं।

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Tuition with caution

Private tuitions, despite several shortcomings and fallouts, hold value for India's knowledge economy, labour market and students' careers; and can't be scrapped outright



KDP RAO

Even as the vision of transforming India into an 'equitable and vibrant knowledge society by providing high-quality education to all, and thereby making India a global knowledge superpower', as envisaged by the NEP 2020, is yet to be realised, the tuition industry — the 'parallel education' and the 'new normal' — poses a predicament for, if not an undoing of, the entire system. Firstly, the thriving private tuition business is only proving that learning and economic status have a positive correlation — a challenge to the state policy of mitigating socioeconomic inequalities through quality education to all. Secondly, tuition distracts students from collective learning in the school environment and from developing as a well-rounded personality, essential for grooming them into responsible future citizens. Thirdly, paid learning squeezes the budgets of parents; the burden is doubled on parents of private school students already paying fat sums as annual fee, ironically including 'tuition fee'. Above all, private tuition breeds irresponsibility among formal school teachers, so much so that even private schools advise parents to engage private tuitions for their kids.

One can go on counting the ills of private tuition but, at the same time, it will only be uncharitable to condemn the industry as an evil, ignoring the brighter side of the well-evolved age-old institution of learning, which is actually supplementing the government's efforts in addressing quality concerns while also providing stable employment to a large number of qualified people in the country. The predicament, however, cannot remain unaddressed for long, for we cannot afford a *laissez-faire* in the field of education — a primary social obligation for governments.

Private tuition, as an institution, came into existence alongside the formal institutions of education across the world. Surveys show that percentage of students attending tuitions in secondary education in Europe are: 84 per cent in Greece, 70 per cent in Lithuania, 77 per cent in Malta, 63 per cent in Spain, 60 per cent in Hungary, 54.7 per cent in Portugal, 52 per cent in Poland,



Addressing the issues in education system is more important than declaring a war on private tuition

50 per cent in Luxemburg, 45 per cent in Ireland, 41 per cent in the UK and, 40 per cent in Italy. According to the Global Education Census, among Asian countries, when 90 per cent children in elementary schooling received tuition in South Korea, 85 per cent of high school children went to private tuitions in Hong Kong; likewise, the figures for Japan and Malaysia were 70 per cent and 83 per cent, respectively. However, the pattern of attendance in private tuitions in Europe varied, depending on various factors such as personal ambitions, choice of subject, credibility of agency etc. Tuition there is seen more as a facility to enrich student's subject knowledge — supplementing the school teaching as students aspire to excel in academics. In Asian countries, however, tuition has become an inseparable component of formal education — aptly called 'shadow schooling' since it makes good for what is missing in classrooms; it is a basic necessity to learn in order to pass in examinations, which schools barely fulfill.

A study by Prof. K Sujatha, National University of Educational Planning and Administration (NUEPA), shows that a high tendency for private tuition is observed in states where serious problems of quality education exist at secondary levels. Kerala, despite success in universal access and

participation, has the highest percentage of tuition seekers (55 per cent), followed by an industrially and educationally advanced state like Maharashtra (49.35 per cent), and Uttar Pradesh (46.67 per cent) while it was only 32.26 per cent in Andhra Pradesh. Effective administrative intervention in AP, through disincentives to teachers for poor performance in public exams, is found to have helped improve the quality of education and reduce dependency on tuition. Secondly, most private tutorial and coaching centres in AP got transformed gradually into full-fledged private schools, and a keen competition among them was responsible for quality maintenance. Many other studies, in general, point to the fact that lack of effective control on both government and private schools in terms of delivery is responsible for exponential growth in the tuition market.

There is a boom in the tuition industry today, as two important factors, inter alia, fueled the demand for tuition: growing awareness about the importance of best learning and the rise in family incomes of people over the last two decades. The global private tutoring market size stood at USD 92.59 billion in 2020, with giant participants including BYJU'S, Club Z! Inc., Chegg, ETutor, Tutor Group, John Wiley & Sons

Inc., Kaplan, Khan Academy, Pearson Plc, Preply, Revolution Prep, Skooli, Tal Group, etc. The industry is thriving not only with competitiveness and product variation but also by going in for strategic acquisitions and partnerships. The Indian tuition market is worth around USD 20 billion today, and is expected to grow by leaps and bounds.

Growth in the tuition industry in developing countries is only a symptom signifying a much-deeper malaise entrenched into the school education system. We can't blame the private tuition industry without examining the issues in the right perspective. In a country with around 15 lakh schools, more than 33,000 nurseries and a thousand universities, ensuring quality of learning is an extremely difficult task. Students in government-run schools and colleges face greater disadvantage, as 17 per cent of the teachers' posts (around 1,06,000) are officially said to stand vacant for years. When private schools are profiteering under the 'celebrated brands', caring too little for excellence, government schools are plagued by typical problems like crowded classrooms, lack of subject specialists, one teacher teaching many subjects, teachers' absenteeism, lack of inspection by authorities etc. Another peculiar feature of government schools is that teachers are also assigned

non-teaching tasks, including census activities and election duty, often at the cost of the precious teaching time.

Addressing the issues in the education system is more important than declaring a war on private tuition. The much-hyped China's crackdown on the tuition industry is no success story, let alone a model for other countries. It was merely a trial-and-error exercise whose impact is yet to be tested while a huge number of jobs were lost as a side-effect. Prof. Mark Bray, an eminent scholar from Hong Kong University, feels (and agreeably so) that the tuition industry should be recognised and evaluated, as it has strong implications for the knowledge economy, the labour market, performance of schools, and the lives of children and families.

Populist measures purported to curb tuition will only end up encouraging underground activities. For example, South Korea banned private tuitions in 1980 but, when black marketing of tuition flourished even at higher fees, the ban had to be lifted in 2020. Besides, it is unethical to handle the matter with an iron fist since tuition is neither a crime nor an antisocial activity. On the contrary, it is an efficient parallel institution useful for developing human resources. Each country needs to develop its own model of dealing with private tuition because what works in one country may not work in another. While proper surveys are necessary to create a database to make policy interventions, identification of ways to engage with market forces have become indispensable. Governments should regulate the tuition sector by aiming at equity-oriented optimum utilisation of trained private academic manpower with a mutually beneficial collaboration between both institutions i.e., the educational institutions and the tuition firms. The guidelines may include concessions for economically and socially weaker sections, partnership between schools and tuition firms, creation of a knowledge pool, financial assistance to aspiring tutors and tuition firms etc. The NEP perhaps needs a revival.

The writer is a former Addl. Chief Secretary of Chhattisgarh. Views expressed are personal

In Asian countries, tuition has become an inseparable component of formal education — aptly called 'shadow schooling' since it makes good for what is missing in classrooms

A THOUSAND TONGUES

The Uruguayan writer, Eduardo Galeano, had said, "The world is diminished when it loses its human sayings, just as when it loses its diversity of plants and beasts." Language, the cornerstone of culture and civilisation, is essential to the preservation of memory and the history of communities, even the nation. Therefore, its preservation, as Galeano urged, is crucial. In a first-of-its-kind endeavour, Belvedere House, on the National Library campus, would open a museum dedicated to languages — the Museum of Word or Shabdlok — in an attempt to trace the evolution of the 22 official Indian languages and major linguistic trends in an interactive way. Its principal aim would be to preserve the illustrious history of languages, scripts and literature as well as focus on the contributions of prominent scholars, poets and writers. Hearteningly, the history of the printing press and public libraries would also come

under the ambit of preservation. The project would balance the old with the new: the curatorial team is expected to include augmented and virtual reality tools, graphic walls, interactive games along with artefacts like manuscripts and replicas of historical objects to enhance the museum experience.

The initiative is welcome. But there is also a concern. The museum of languages is taking shape even as numerous languages are threatened with extinction. Nearly 400 of India's 850-odd languages are considered endangered; around 250 languages have been lost since 1961; another 400 will perish in the next 50 years. The fall in the use

of, teaching in, and research on these languages have amplified the existential threat. Large-scale migration from language zones is leading to disruptions in the bond between a language and its speakers. An uneven — discriminatory — cultural ambience has added to the challenge. Surveys have revealed that people — mostly indigenous communities — often shun their mother tongues because of a fear of being discriminated against.

A new shadow has fallen over India's multilingual heritage with the political ascendancy of the Bharatiya Janata Party whose leaders — the Union home minister is among them — have repeatedly endorsed the im-

position of Hindi. While the Museum of Word can help preserve endangered linguistic heritage, protection is not enough. What the nation's language policy must endorse, along with the preservation of dialects, is their proliferation. This must also be a democratic enter-

prise. So not just Sanskrit and other classical tongues but also the cause of indigenous languages must be pushed by encouraging native speakers and weeding out cultural or political discrimination on the basis of language. Educational institutions must be given the autonomy to choose a third, or even fourth, language for teaching depending on demand and demography. Multiculturalism has many benefits. Apart from fostering a sense of mutual respect — the glue to a federation — the plurality of languages is attractive to economic capital. Therefore, languages must be allowed to live, within and without protected spaces.

The revival of
dying languages
must take
precedence over
the preservation of
their histories

त्यागना होगा पारंपरिक नौकरियों का मोह



संतोष घोष

युवा पीढ़ी को अकादमिक डिग्रीयों और सरकारी नौकरियों के पीछे पढ़ने के बजाय नई किस्म की नौकरियों के लिए रुचि को तैयार करना चाहिए

पिछले कुछ समय से शिक्षा पर काफी बहस हुई है। एक ओर बंगाल का शिक्षक भर्ती घोटाला सुर्खियों में रहा तो दूसरी ओर आम आदमी पार्टी का दावा है कि उसने प्राथमरी स्कूलों के माध्यम से शिक्षा में भारी सुधार किया है। अन्य सरकारी नौकरियों की तरह शिक्षकों की भर्ती में भ्रष्टाचार कोई नई बात नहीं। कुछ साल पहले मध्य प्रदेश में व्यापक को लेकर भारी हंगामा हुआ था। एक समय बिहार और उत्तर प्रदेश बोर्ड परीक्षाओं में धड़लसे से नकल को लेकर खबरों में रहे। ये सभी बिंदु शिक्षा क्षेत्र में समस्याओं की ओर संकेत करते हैं। स्वतंत्रता के बाद से भारत में स्कूलों की संख्या में दस गुना बढ़ोतरी हुई। 1947 तक देश में करीब 1.5 लाख स्कूल थे, जिनकी संख्या 2021-22 में बढ़कर 15 लाख हो गई। गांवों में सड़कों और पुलों की बढ़ी संख्या ने स्कूलों तक पहुंच बेहतर बनाई। मिड-डे मील जैसी योजनाओं ने भी ग्रामीण स्कूलों में छात्रों की उपस्थिति

बढ़ाने के मामले में सकारात्मक प्रभाव डाला। वैसे तो भारत में साक्षरता का स्तर अभी भी वैश्विक औसत से कम है, पर 1951 में 18 प्रतिशत साक्षरता दर का आंकड़ा भारी उछाल के साथ 74 प्रतिशत तक पहुंच गया। ये आंकड़े भी 2011 की जनगणना के हैं। साक्षरता दर बढ़ने के बावजूद शिक्षा के समग्र स्तर में मानकों के अनुरूप अपेक्षित प्रगति नहीं हुई है। इसके पीछे कई कारण जिम्मेदार रहे।

शिक्षा के समग्र सबसे बड़ी समस्या सक्षम शिक्षकों की उपलब्धता से जुड़ी है। ग्रामीण भारत में कई स्कूलों में पर्याप्त शिक्षक ही नहीं हैं और कई जगह तो एक भी अभावक नहीं है। वहां तक कि जहां शिक्षक उपलब्ध भी हैं, वहां उनकी क्षमताएं सरकारी के धरे में होती हैं। फिर उनकी प्रतिबद्धता, समर्पण और व्यापक स्तर पर अनुपस्थिति जैसे पहलू सामने आते हैं। अप्रमत्त यह देखा गया है कि ग्रामीण स्कूलों में शिक्षक सरकार से वेतन तो लेते हैं, लेकिन साथ में किसी दूसरे काम-धंधे में भी लगे होते हैं। अमतौर पर कहा जाता है कि सरकार को केंद्र और राज्य दोनों स्तर पर शिक्षा के लिए बजट बढ़ाने की आवश्यकता है। यह बात काफ़ी हद तक सही है, लेकिन शिक्षा में निवेश पर प्रतिफल कम है, क्योंकि पूरे तंत्र में भारी रिसाव की स्थिति बनो हुई है। इसका ही परिणाम है कि हमारे शिक्षा तंत्र से प्राप्त उत्पाद की गुणवत्ता लचर बनो हुई है। तमाम बच्चे स्कूल की पढ़ाई के बाद ही शिक्षा से किनाह कर लेते हैं। इसी तरह आगे की पढ़ाई और स्नातक के बाद तमाम बेरोजगार रह जाते हैं। यहां तक कि उनमें से प्रतिभाशाली छात्र भी नौकरी पाने में नाकाम रहते हैं।



अशोक ताम्रजु

शहरों में सरकारी स्कूलों की खराब गुणवत्ता के चलते निजी स्कूल फलने-फूलने गए। आकर्षक नामों और ऊंची फीस वसूलने वाले इन स्कूलों में शिक्षा की गुणवत्ता बच्चों के स्तर पर नहीं। तब छात्रों को दुर्घटना का सारा लेन-पढ़ा है। इंजीनियरिंग, प्रबंधन और चिकित्सा शिक्षा के प्रति अथाह आकर्षण ने अह-आहटी, आइआईएम के लिए कोचिंग से लेकर मॉडकल कलेजों का पूरा उद्योग विकसित कर दिया है। चूंकि कुछ ही छात्र परीक्षा पास करके प्रवेश पाते हैं तो अधिकांश भारी-भारक फीस अदा करके निजी कालेजों में दाखिल लेते हैं। आश्चर्यकर उन्हें वह डिग्री मिल जाती है, जो एक प्रबन्ध से दिखावटी हो होती है। उसके बाद वे अपनी डिग्री से निचले स्तर की नौकरियों के आवेदन करते हुए दिखाई पड़ते हैं। कई बार अकुशल सरकारी नौकरियों के लिए लगने वाले जलपट से इसकी पुष्टि होती है। स्पष्ट है कि वह समस्या व्यापक और जटिल, दोनों प्रकार की है। इसका कोई आसान समाधान भी

नहीं। इससे बहुआयामी एवं बहुस्तरीय दृष्टिकोण के जरिये निपटना होगा। यही कारण है कि बिहार के नए उपमुख्यमंत्री द्वारा एक साल के भीतर दस लाख सरकारी नौकरियों सृजित करने या दिलाने के विकसित शिक्षा माडल जैसे त्वरित समाधान खोजने एवं अत्यावश्यक लगने हैं। दुर्भाग्यवत् आम आदमी इसे नहीं समझता और वह उम्मीद फलने लगता है। वह तो नेतृओं से सवाल भी नहीं कर सकता। परिणामस्वरूप उससे किए गए वादे पूरे नहीं हो पाते और अगले चुनाव में उसे नए सपने दिखाए जाते हैं। ऐसे में कुछ वास्तविकताओं के आलोक में स्थिति का आकलन करना आवश्यक हो जाता है। इसे नेतृओं के धरोसे तो बिल्कुल नहीं छोड़ा जा सकता, जिनका एक ही मकसद होता है कि किसी भी कीमत पर अगला चुनाव जीतें जाएं। हमें सोच बदलने की जरूरत है। जनमत निर्माता, अकादमिक, उद्योग जगत के रिगाज और एक्टिविस्ट सामाजिक नज़रिया बदलने की दिशा में कुछ मिथकों को तोड़ने में महत्वपूर्ण

नौकरियों को छोड़ना है।

नेतृओं का सबसे बड़ा नुकसान यह होगा कि वे नए समाधान खोजने पर तैयार हों। काम की ज़रूरतें अनिश्चितताओं के दौर में बढ़ती जाती हैं। जिनसे घर की एककी नौकरियों अब अतीत की बात हो गई है। वहां तक कि सरकारी नौकरियों में भी एक चलन बढ़ता जा रहा है। अब सामाजिक उद्योग व्यवस्था को स्थान पर प्रतिस्पर्धी बनाकर रखने के लिए कार्यवाही की जा रही है। अगला वादा है कि हो जाएंगे या उनकी किसी कर दी जाएगी। सरकारी विधायी को भी एकदम की लाल घड़ाने के लिए आकर घंटाना होगा। इसके अतिरिक्त डिजिटलीकरण, अतिरिक्तियत इंटरनेट, मशीन लैबींग और स्वाफलन आदि के उभार से कई सामान्य नौकरियां समाप्त हो जाएंगी। चालक रहित कार और चालक रहित ट्रेन जैसी संकेतपूर्ण शोध हो साकार हो जाएंगी। ऐसे में अगले पीढ़ी के लिए इसके क्या निहितार्थ हैं? कई परंपरागत नौकरियां घटेंगी तो कई नए क्षेत्रों और विशेषकर सेवा क्षेत्र में अवसर बढ़ेंगे। उनके लिए अलग किस्म के कौशल की आवश्यकता होगी। ऐसे में युवा पीढ़ी को अकादमिक डिग्रीयों और सरकारी नौकरियों के पीछे पढ़ने के बजाय इन नई किस्म की नौकरियों के लिए रुचि को तैयार करना चाहिए। स्थिति ही उन्हें उद्योगिता के संघ का मर्म भी समझना चाहिए, ताकि अगली पीढ़ी प्रधानमंत्री के शब्दों को धरातल पर उतार सके कि नौकरी लेने नहीं, देने वाले बनें। यह रहे कि आत्मनिर्भर होना जितना देश पर लागू होता है, उतना ही प्रत्येक व्यक्ति पर भी।

(लेखक राजनीतिक विश्लेषक एवं वरिष्ठ स्तम्भकार हैं।)

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Time to take a page out of Delhi book

Why is there a vast difference in the approach to overhauling govt schools in Delhi and Karnataka?

PRIYAN R NAIK

It was rather ironic that when *The New York Times* was featuring how Delhi was overhauling its education system and fixing its schools, Bengaluru schools were in the news for skipping the national anthem! There can be no excuse for disrespecting India's national symbols or ignoring the state government's mandate to instil nationalism among students. However, why is there such a vast difference in the approach to overhauling government schools in Delhi and Karnataka?

Not too long ago, Delhi's 2,400-odd government schools had a reputation for decrepit buildings, mismanagement, demotivated teachers and a lack of functioning toilet facilities. Filthy bathrooms and heated ceilings in summer made attending school a nightmare. Absentee teachers, who mostly spent their time knitting sweaters whenever present in class, populated Delhi government schools, better known for their dismal results in the school leaving examinations.

Delhi committed crores of rupees to overhaul its schools, design new curriculum, and focus on improving day-to-day operations. Used to a stagnant system, school committees and teacher groups were provided a platform to air their concerns, hire teachers, seek budgetary sanctions, make new purchases and undertake repairs. Training sessions were held for the existing lot of 13,000 odd teachers who were encouraged to build personal equations with students and to find out if they had problems at home. Teachers were even deputed for advanced training at world-class institutions in London and Singapore.

Results improved with students securing 100% results in their school leaving examinations. Rundown classrooms, falsified records and stinking toilets gradually began to be replaced with new classrooms, laboratories, tracks for athletics and a newly developed curriculum. Private companies were enlisted to clean schools, retired defence personnel were hired as caretakers, freeing up principals for academic work. Student-teacher ratios improved and schools now had a surplus of students seeking admissions. Although a work in progress, Delhi's education system seems to be working with other state governments, like Telangana and Tamil Nadu, wanting to adopt the 'Delhi model'.

Karnataka's Department of Primary and Secondary Education oversees 44,615 government primary schools and 5,240 government high schools providing education to 50 lakh

students. Of these, Bengaluru Urban has 1,403 schools while Bengaluru Rural has 1,203. A 'School Development & Monitoring Committee' (SDMC) to ensure the development of each school has been instituted. The principal is appointed the secretary of the SDMC and is expected to ensure community ownership and participation in education with nine membership positions reserved for parents of children studying in that school.

When I visited two remote schools in the Doddaballapura taluk of Bengaluru Rural district — government higher primary school in Beedikere village and another at Shivapura — both conducting classes from primary classes to standard VIII, 80 odd enthusiastic students in each school were all eager to work in the computer laboratory. In the heartland of Doddaballapura taluk, surrounded by fields, accessed by a narrow macadam road with no traffic for miles around, principal MH Mangala Kumari was leading a team of five teachers with infectious enthusiasm.

Not so long ago, classes meant students had to gather under a neem tree to study, before a company located in the Doddaballapura industrial belt provided funding under its Corporate Social Responsibility programme and donated classrooms with green boards, a computer laboratory, a dining hall where midday meals are served and a multi-purpose auditorium, and a neat toilet block.

Rooftop solar panels were installed to cater to the lighting and power needs of the computer laboratory, students' play area, water purifiers and kitchen equipment. Significantly, the teaching staff was made responsible for the upkeep of these facilities. Fortuitous circumstances had made the schools a role model of sorts with parents queuing up for admissions like Delhi.

But what about the rest of the schools in Karnataka? The SDMC policy notwithstanding, the zing is missing in Karnataka. Despite an increased allocation for education from 11% to 12% for the 2022-23 period, it required funding from a corporate benefactor to ensure the infrastructure needs of the two schools in Doddaballapura taluk. Even now, refresher course material, soft skill training, happy and mindfulness training, telling stories to friends, listening to each other, and connecting with nature are other ideas waiting to be borrowed from Delhi government schools.

Education is fast proving to be an election-winning issue. But it would be wrong to hold the future of our young generation to ransom.

All good ideas must be welcomed, studied and adopted irrespective of political affiliation. The future of India's younger generation is too precious to be sacrificed at the altar of competitive politics.

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The Cash Cow

Whereas internationalisation of higher education in India is a dire necessity, one is tempted to question how much of this is dependent on the enrolment of foreign students in Indian higher education institutes? Should it top the list of priorities? What about the improvement of infrastructure? What about the student-teacher ratio? What about the drastic cuts in research (especially in humanities) and other grants? What about ensuring and sustaining expansion, excellence, and equity in higher education?



All over India, there is a vague feeling of discontent in the air about our prevalent system of education. Signs have lately been numerous of a desire for a change - there seems to be an urgent of life in the soil of our national mind, sending forth new institutions and giving rise to new experiments." These words might sound very contemporary but were actually spoken by Tagore in a lecture titled, "The Centre of Indian Culture," delivered in 1919.

Since then, much water has flown under the Ganges. But still the 'vague feeling of discontent' has not disappeared and the country, by adopting the New Educational Policy, is on the threshold of a new era of higher education.

The feeling of discontent about the present system has initiated new experiments in higher education, the latest being UGC's declaration about creating 25 per cent additional seats for foreign students in the colleges and universities across the country.

The Chairperson of the UGC has stated that the initiative has been taken to internationalise UG and PG programmes in India. "Internationalisation of higher education," he has added, "is an essential aspect of the National Education Policy 2020 and helps in integrating the international and intercultural dimensions in higher education."

Interestingly, at the beginning of his lecture, "The Centre of Indian Culture," which is considered to contain Tagore's ideas about an ideal Indian University and the ideological foundation of Visva-Bharati as well, Tagore also underlined the need for internationalising Indian higher education, though not at the cost of its own needs and uniqueness. He said, "On each race is the duty laid to keep alight its own lamp of mind as its part in the illumina-

tion of the world."

The metaphor of the lamp as used by Tagore clearly suggests that Indian higher education system can afford neither a disconnect from the world (visva) nor from the country (Bharati).

In fact, the choice of 'Visva-Bharati' as the name of his own university is evidence enough to prove Tagore's take on what should be an ideal university in India. Even now, Visva-Bharati is one of those few Indian universities where a significant number of foreign students are enrolled each year. But then, UGC's new initiative cannot be considered an extension of Tagore's vision. The UGC Chairperson has clearly stated that these additional seats will be created over and above the total sanctioned strength of a programme/course in a higher education institute and such a seat, if it remains vacant, has to be allocated to an international student only.

These seats will also not include those international students who are pursuing their studies in India under an exchange programme, or a MOU. There will be no admission tests for these students; in fact, the higher education institutes will be allowed to admit them through a transparent admission process as is followed in 'foreign' universities.

Furthermore, higher education institutes must have an 'office for international affairs' which will coordinate all matters related to foreign students and build the 'brand' of such an institute outside the country.

However, the decision to create seats will be taken by the HEIs according to specific guide-

lines and regulations issued by the regulatory bodies considering the infrastructure, faculty and other requirements.

Though UGC seems to give autonomy in this regard to the HEIs, in our country a notice or a circular of UGC is often considered a mandate, even slight deviation from which some educationists consider an offence.

Since enrolment of foreign students implies the flow of money, this new move of UGC might tempt some institutes to opt for the provision ignoring many constraints under which they operate. UGC's insistence on the need for 'branding' Indian higher education abroad also suggests that UGC, too, like so many private education institutes, considers education a commodity. In fact, at present, in some higher education institutes, foreign students get admission through entrance tests.

Complete abolition of this system might be a huge compromise with quality. Tagore's ideal of free exchange of knowledge and expertise between India and other foreign countries has definitely not triggered this move of UGC.

UGC, in recent times, unfortunately, has often been guided by the desire to imitate the higher education system of the USA.

In the lecture mentioned above, almost one hundred years ago, Tagore lamented, "The mischief is that as soon as the idea of a University enters our mind, the idea of a Cambridge University, Oxford University, and a host of other European Universities, rushes in at the same time and fills the whole space."

With time, Oxford and Cam-

bridge have been replaced by Harvard and Stanford. The way the semester system has been introduced in the country bulldozing regional specificities and needs clearly indicates that (unlike what Tagore dreamt of) India, instead of assessing its own requirements, loves to imitate the West in taking major decisions in higher education. The British model, that is why, gets substituted by the American model. In executing the admission process of the foreign students, interestingly, the HEIs are also asked to follow a 'foreign' model.

Whereas internationalisation of higher education in India is a dire necessity, one is tempted to question how much of this is dependent on the enrolment of the foreign students in Indian higher education institutes? Should it top the list of priorities in this regard?

What about the improvement of infrastructure? What about the student-teacher ratio? What about the drastic cuts in research (especially in humanities) and other grants? What about ensuring and sustaining expansion, excellence and equity in higher education?

In fact, there are many good colleges in India which in an Honours class even have more than one hundred students. Students of these colleges save the prestige of the college and the energy of a teacher by bunking general classes like compulsory English en masse.

A PG class of a university sometimes even has more than two hundred students in a section. On the other hand, in some colleges Honours courses are being run with only one qualified teacher.

Internationalisation of higher education in India cannot be realised by imitation. For illuminating the world, higher education in India should keep alight its own lamp first. It should not become a cash cow.



ANSHUMAN KAR

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New demands on the Edtech sector in the 'new normal'



ASHISH KHARE

During the pandemic, every sector in India experienced the greatest disruption, and education was no exception to it. Education is no longer restricted to traditional classrooms. The government's limits and tight safety measures have prepared the way for new-age pedagogies such as online education. The Covid-19 pandemic supported the edtech sector's potential growth, resulting in massive recruiting, however, experts predict that with the opening of schools, this upward trend will likely consolidate.

However, one positive by-product of these disruptions has been the willingness of all stakeholders, such as schools, coaching institutes, students, and teachers, to adopt the digital style of learning, resulting in the ed-tech boom of today. The outbreak has significantly altered the way we teach and learn, resulting in the use of modern technology, increased revenue, and jobs.

Ed-tech: An essential for today's era ed-tech is a collaborative

approach to education and technology in which organizations use technology to curate high-quality and individualized learning experiences at low-cost in order to make education more egalitarian and inclusive. Everything from the addictive app on your smartphone to the new-normal classroom fits under the broad umbrella of Ed-tech.

According to Technavio, the Ed-tech market was valued at \$2 billion in 2021. Though, the industry has grown significantly in size over the last decade. In the next 10 years, it is expected to grow to \$30 billion. Technology advancement has played a significant role in transforming, as it has paved the way for ed-tech. Now, ed-tech platforms not only assist scholars in development, however, also facilitate benefits for professionals to begin or restart their careers by upskilling their knowledge in a variety of fields.

Overall, technology plays an essential role in upskilling the professionals in today's world. Because we are now a technology-dependent generation, our lives and studies revolve around technology. The

amount of time and attention we devote to our smart gadgets keeps us engaged and helps to evolve further.

Online Mentorship Programme

Nowadays, with the advancement of digital technology, the era is evolving, with online apps and platforms such as mentorship assisting customers of all ages on their journey. With the conviction that mentor-mentee relationships have the power to alter lives and close skill gaps sustainably.

Scholars, who choose to take JEE, NEET, GATE, or UPSC exams online save money on transportation, hotels, meals, and other expenses. They also don't have to think about changing their base. Students can have a certain level of flexibility in their schedules due to the availability of recorded lectures, which are normally unavailable in the offline format.

Students of all ages can now prepare for competitive or traditional exams at their own speed and have access to their test results in comparison to other students through quantitative data analysis.

Online mentorship systems are presently in high demand owing to the potential of one-on-one learning experiences with improved exploration and employment security during their learning term.

New Demand in the New Normal

The thriving ed-tech industry benefited both students and investors, while also increasing job opportunities. As more e-learning businesses emerge, teachers and other staff are in high demand. As a consequence, India's skilled youth have several chances to teach, study, and make money. The new demand that is emerging in the new normal is the development of life-skills. Ed-tech is emphasizing life skills through online classes.

Public speaking is the most sought-after life skill among parents. Communication skills are a critical 21st-century talent that is intimately related to professional success. Parents want their children to learn to read with comprehension, creative writing, phonics, and grammar. Furthermore, the workforce of the twenty-first century will be vastly

different from that of today. It will focus on technology that did not exist a few years ago, as well as ones that have yet to be invented. In the scenario, coding will be crucial in bringing about revolutionary transformation as a new normal.

The education sector is steadily evolving, and e-learning programmes, in particular, have made studying more convenient and accessible. Students may now learn at their own pace, according to their own talents, and about anything they desire, thanks to the online platform. This is the ideal approach to learning since it allows students to reskill and upskill.

There are a myriad of online mentorship platforms in India that provide effective programmes and assist in the creation of successful education models by combining novel pedagogies and techniques. As a result, the new demand will hasten the growth trajectory of ed-tech in the new normal.

The writer is chief executive officer & founder Mentorkart-Edtech and mentoring platform

LEARN EARLY

The Kerala High Court has directed the Central Board of Secondary Education and the state government to make it mandatory for every school in the state to include a prevention-oriented programme on sexual abuse in the curriculum. The court was hearing the bail application of a 22-year-old man accused of raping a 15-year-old girl and pointed out that “awareness of the consequences of sexual offences” can prevent their occurrence. The ambit of the said ‘consequences’ merits discussion. Merely educating children about the punishment for sexual abuse might not be enough to curtail such crimes because a sense of entitlement and impunity is bred into male children from an early age given the patriarchal nature of the family. The social stigma attached to rape, which places the shame squarely on the shoulders of the victim, ensures that few children, or even adults at times, speak up about abuse. Worryingly, existing awareness programmes that teach children to differentiate between ‘good touch’ and ‘bad touch’ are not enough: the judge concurred with this assessment. No less than the Supreme Court has underlined on several occasions that child sexual abuse need not include physical contact. There is the additional challenge of ignorance. A 2022 survey by OutLAWed India shows that only 36% of schools have told students about the Protection of Children from Sexual Offences Act, and 33.9% of schools have conducted workshops on sexual abuse. Worse, sex education in India focuses on what not to do instead of equipping children and young adults with knowledge about sexuality. A 2020 report by the National Human Rights Commission dwelt on the rise in cases where parents misuse laws — sexual activity with anyone below 18 years of age is illegal in India — to punish consensual sex between young adults.

The responsibility of curtailing sexual crime should be a shared, institutional commitment. A study led by the Center for Criminology and Public Policy shows that the training that is available to police officers investigating child sexual abuse is inadequate at best and counterproductive at worst. It also noted that it is challenging to achieve conviction in cases where the accused is a family member and that victims from economically disadvantaged sections are more vulnerable to coercion. The battle against sexual crime must, therefore, be fought at multiple tiers, involving educational institutions, the police, the courts and, most importantly, society. Tel/30/10

Leveraging technology for large-scale assessment and improved learning outcomes

Seethaprasad Mandikel

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Large-scale assessments (LSA) are tests, or other data collection processes, conducted simultaneously on large numbers of students. Frequently, these assessments are used to measure student accomplishment for educational accountability, in which the system or persons within the system are held accountable for student performance.

LSAs are demonstrated to be the ideal method for obtaining pertinent information regarding student progress or performance as well as interest levels. Additionally, it helps in assessing how well they are learning. Such formative assessments provide feedback and act as an input to tailor their lesson plans based on each student's level of accomplishment viz: personalised learning path, reinforcing the effectiveness of both teaching and learning.

The outcomes of such evaluations can be used to provide constructive criticism to students, shape their education, and set new goals.

Opportunities

The National Education Policy 2020 emphasizes the unique requirements of each student. It seeks to give students access to an education of the highest calibre. A flexible and adaptive education system that can fulfil the expectations of both students and the economy is another goal of the policy, which attempts to establish such a system. Certainly, to coincide with the NEP 2020, it's important to ramp up the assessment processes as well.

Technology can be used for instantaneous evaluation, enhancing engagement, identifying knowledge gaps, and facilitating deeper learning. With the use of technology, educators may now conduct instant assessments and other forms of real-time evaluations to gauge their students' understanding as they go. A teacher's ability to cater to each student's individual needs depends on his or her ability to diagnose each student's specific learning deficiencies quickly and accurately.

Teachers have long attempted to satisfy the requirements of all their students, meticulously setting and copying evaluations for different kids based on their skills, in recognition of the fact that everyone learns somewhat differently.

This procedure is significantly simplified by classroom-designed technology. By properly assessing students, learners are less likely to grow dissatisfied and disengaged and more likely to achieve success.

During the pandemic, the shift to tech-based learning was rapid. Students enrolled in cloud-based learning programs had greater leeway in determining when and where they complete assignments and exams. With just a reliable internet connection and a smartphone or gadget, learners were able to make the most of their time learning and assessments online. This new-found system has broken mindsets and is leading new experimentations of pedagogy as well.

Assessment Technologies

Assessment technologies today are very advanced. Various

types of assessments are created within a question bank and exam management system. The questions are tagged to difficulty levels, Bloom's taxonomy (a codification of cognitive skills), and the ideal time required to solve among other parameters.

The exams can also be configured to be linear or randomized, time-bound and with defined schedules. The evaluation mechanisms include automated scoring of many types of questions and scoring or grading by a teacher.

Once administered, the Learning Management System (LMS) captures a lot of data on the learner responses. It then tabulates, analyzes, and presents this data, and generates specific recommendations for the learner to use to improve learning.

Systems can use artificial intelligence for the presentation of exam questions. Systems get a better picture of student capabilities and the way the attempts are done. Such systems are also able to orchestrate the teaching-learning interaction with the learner in a dynamic manner, resulting in personalized adaptive learning to address the unique needs of each learner.

Using the data collected with assessments, many Learning Management Systems also employ gamification in various assessments to engage the learner better and motivate the learner to perform better. Gamification involves using game-based elements such as points, badges, leaderboards, streaks, increasing levels of challenge, and peer competition or teamwork on tasks.

Using principles of behavioural sciences, learners are given nudges to perform incrementally better (reinforcing good behaviour and performance). They are also encouraged to maintain their "streak" – a term given to a sequence of consecutive good achievements.

In the End...

As a result, we can say that technology is radically altering how students study for tests and exams.

It is indisputable that today's youngsters face an overwhelming number of exams designed to determine their careers, especially if they are interested in disciplines like engineering, management, or other highly competitive fields. As competition increases for prestigious jobs and schools, these assessments take on even greater importance for both children and their families. It's encouraging to see more and more online education providers step up to help students improve their test-taking skills, get a sneak peek at their projected scores, and select the best universities for them.

Technology is undeniably both the present and the future. In general, tech-enabled teaching and assessment tools have enormous promise for a variety of uses, particularly in an era where most of the world's population is adapting to a hybrid mode of learning. From teaching aids and supervision to the evaluation of papers for various examinations conducted on a large scale, the uses will continue to expand.

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Breaking the mould in learning

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Every day when school gets over in a government primary school located in a small village in Uttarakhand, students of the 5th grade have the responsibility to fold the carpets, keep the blackboards inside and to lock the doors. I noticed, that out of the 7 students who were in fifth grade, it was always the two girls who did the final checks, the locking and the keeping of things aside, while the five boys were the first to run home. The girls didn't seem to mind this, and I had a conversation with the school teacher and pointed this out, to which she said, 'but girls are inherently more responsible about such things, this is their nature'.

This conversation with the school teacher reminded me of an excerpt from Professor Krishna Kumar's lecture titled 'Education and Girlhood' where he compares the societal understanding of girlhood to a mould used for metal casting and says "The term 'girlhood' refers to the culturally crafted mould used for imprinting the mind of the female child from the earliest stage of life" and truly as a society we have conditioned ourselves to look at 'childhood' and 'girlhood' with two separate lenses.

In her seminal work titled 'Understanding Gender' Kamla Bhasin has referred to gender as an analytical tool to understand social realities with regard to women and men. The way we perceive these realities often result in the acknowledgment, acceptance and practice of varying degrees of gender inequalities in all spheres of life. Perhaps the solution towards eliminating these inequalities lies in making an early intervention.

A study conducted in 315 government schools of Haryana by Breakthrough and Abdul Latif Jameel Poverty Action Lab (J-PAL), during 2014-2016, concluded that there can be a significant change in discriminatory attitude if gender sensitisation starts early.

This insight is a hopeful indication towards the idea that a classroom can be a good place to start discussing gender and its nuances.

The idea of the gender equality in India is slowly gaining traction and has been acknowledged by the Hon'ble Prime Minister of India, as a "crucial parameter of unity" in his speech for the 76th Independence Day and while a change in the curriculum and an early intervention are helpful steps taken towards the mitigation of blatant divides, would they be



The burden of emotional labour in schools falls on girls

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enough to tackle implicit biases? In the same primary school where I had the chance of teaching for a year, I used to notice that girls of a higher grade, usually grades 4 and 5, were expected to look after their younger siblings and, on occasions, had to even go back home in the middle of school to tend to their younger siblings, when the parents were not at home. Strangely enough, this responsibility was never assigned to the boys and they seemed to be unaware of this conundrum.

When I spoke to some of the girls about this societal norm, one of them shared very openly that she doesn't like leaving school but her whole family expects her to look after her younger sibling. When asked for a reason, she noted that she hadn't spoken about this gender divide before and simply confessed that no one had ever asked her. These implicit expectations are the same for a lot of occasions, where gender roles are simply assumed and no one really asks the child what she wants or how she feels.

The importance of including students and listening to their thoughts might sound like the most easiest and logical thing to do, however, it is often ignored by teachers, schools, parents and by our communities at large. A crucial element of fostering agency in students also lies in the school with the teacher creating an environment through activities that invoke the consciousness and empathy in students, qualities which can help in identifying societal injustices.

Vikas Sharma's article titled 'Getting familiar with our fundamental rights' mentions his experience of talking about the Constitution and fundamental rights with children from rural Bihar and how that conversation led to a lot of children expressing incidents of injustice that they have faced.

He mentions how a few girls

reiterated how angry they felt when their mothers asked them to help out in domestic duties and not their brothers, or how it's their schooling/needs that are cut down and not their brothers during any financial hardship'.

These examples demonstrate the effect of an unbiased and fearless environment, and how children are able to articulate their observations, ideas, and opinions surpassing any kind of social or economic divide. My own school experience gave me insights into the importance of having regular dialogue with students where students picked up many nuances of their everyday lives and were eager to share their thoughts.

In 'Weaving the fabric of citizenship', Preeti Saha talks about an activity conducted by Heritage Xperiential Learning School where students of Grade 7 did a study in their neighbourhood to examine the efficacy of the implementation of the laws and provisions as enshrined in the Constitution related to livelihood, education and health and their relation to social issues like poverty, equity and gender. Based on the data gathered the students spent time understanding the framework of designing an effective campaign to bring about change.

On many occasions, as adults, we tend to dismiss the perspective of children under the pretext that we perhaps know better or that they know nothing.

However, I think it may be time for us to step up and snap out of the illusion of having all the answers and accept all the help we can get, especially the ones we can nurture and develop with the students of our society, in order to address the roadblocks created by societal inequalities.

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A fifty-year blueprint for public education in India

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A nation's enduring future hinges on education. Education is the cornerstone of national rejuvenation and social progress and a fundamental way to improve the refinement of citizens and promote their all-round development, bearing the hope of millions of families for a better life. Education must be strengthened if a nation is to prosper.

Giving priority to developing education and raising its level of modernisation are key to attaining the goal of building a society in an all-round way and making India a prosperous, strong, democratic, culturally advanced and a harmonious country.

The destiny of our nation rests on education. People across the nation are duty-bound to reimagine education and rejuvenate education. Education development thus should always be put in a prioritised position in the agenda of the State and the Centre. In line with the requirements to reach out to modernisation, the world, and the future, and to meet the demands for building a desirable society in an all-round way, it is imperative that we regard the blossoming of our people as a fundamental mission. We need to draw strength from reforms and innovation, improve education equity, carry out quality-oriented education in a holistic way. Also, we need to push forward scientific education development from a new historical starting point, and accelerate our transition from an education service provider to being an education superpower; from a human resources provider to a human resources superpower. Only thus can we make still greater contributions to the great rejuvenation of our beloved nation and the advancement of human civilisation as whole.

With new National Education Policy setting the framework for lifelong education which when applied will mean that all people should be taught what they want to learn, excel at what they learn, and put what they have learned into use at a pace they are comfortable with, the ability to shaping our nation through an educational process which is long-term and steady and what could be a relatively slow process (the effect of which might not be experienced by people within a generation or two) has to be



We need to plan and prepare for the India of 2072

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understood and planned for. It therefore requires a long-term vision on the part of a nation as well as willingness amongst the various stakeholders to address some fundamental issues and I thus recommend that we craft a 50 year plan to reimagine education and change the face of Public Education in India.

To enable this, we need to plan for the India of 2072, roughly two quarter centuries from now, about the kind of education that are we likely to need, keeping in mind that by then we will be, by far, the most populous country in the world, our citizens will be all literate. Indians will have a much better life expectancy.

Our economy will be amongst the top 3 or 4 in the world and we thus need to plan to ensure our education system is equipped to both produce citizens for India and for the world.

Our intent and action regarding the education policies will thus need to be a result of at least five decades of systematic, mostly intentional, development that will go on to create a culture of diversity, trust, and respect within the society in general, and within our education system in particular.

While the education sector has been grounded on equal opportunities for all, equitable distribution of resources rather than competition, intensive early interventions for prevention, and building gradual trust among education practitioners, especially teachers.

To really bring about the much needed change and catapult us to where we would like to be - the nation has to have a long-term (at least fifty years - broken into five, ten, fifteen,

twenty five year phases) vision that is politically understood and backed.

Such vision and agenda has to transcend beyond petty politics and has to be pursued. All efforts to achieve quality in education would come to crashing down if we fail to create institutions that continually develop top class education professionals and practitioners of adequate numbers.

Irrespective of the political party in power or bureaucrat leading the administration, political will has to manifest in several ways that could include radical reforms in policies, providing necessary budgets and resources, ruthless (and yet sensitive) execution of policies through effective involvement of stakeholders and the will to make decisions that will be the blueprint for the future of India.

Here are some of the focus areas that need consistent work and unwavering commitment to reimagine education

Developing competent people in education

All efforts to achieve quality in education would come to naught if we fail to create institutions that continually develop top class education professionals of adequate numbers.

Each state must have multiple universities that develop top notch professionals in education who can build capacity in the education functionaries of government and the school system. We need experts in the areas of curriculum, classroom transactions, leadership of educational institutions, teacher education, assessment and examination, pre-school education (where the development of the child really

begins), special and inclusive education, technology in education, administration of education system etc.

Developing perspective among stakeholders

It is pivotal that the schools and the parents have a shared view of education goals, process and assessment of children. The current view of the parents that education is merely a passport for their children for economic development and improving their social status through the material gains they can compete with has to dramatically change. While education would develop life skills that would enable children to earn livelihood, it would also empower them to do that in a responsible manner preserving their values, culture, sensitivities and independent thinking. Parents will have to give up their thoughts that the entire responsibility of educating their children has to be with the school. They have to accept an important role in supporting the education from their homes through a culture at home that is supportive and enabling for the same goals of education as the schools strive for.

Examination reforms

Since the examinations primarily focus on "rote memorisation" that is what the teachers and students too focus for preparation. As a result, there is no focus on education goals in the affective and psycho-motor domain. Areas such as empathy, care, sensitivity, team work, understanding, analysis, synthesis, independent thinking, scientific temper etc. are just not tested.

Student assessment must be a continuous and comprehensive process vs the current one-time process. Several processes must be deployed as relevant for the competency to be assessed and the assessment methods themselves need an urgent overhaul to align with assessing learning and not to assess memory/recall.

Political will

The nation has to have a long-term (at least fifty years - broken into five, ten, fifteen, twenty five years' phases) vision that is politically understood and backed. Such vision and agenda has to transcend beyond petty politics and has to be pursued irrespective of which political party is in power and which bureaucrat is

leading the administration.

Reforms

To serve the requirements of high quality school education, today's model of developing teachers in a few months after a poor quality program is untenable. It is important that every Teacher Education institution is situated in a multidisciplinary University that provides the benefit of inputs from experts from the discipline of sociology, philosophy, psychology, anthropology, technology, basic sciences etc. The process of selection of Administrative Service/Bureaucrats should move away from the existing convention that is followed (Through a Vertical/Lateral Transfer from another Ministry/Department alone) to specific persons who have an understanding of the domain and appreciate the nuances of change while keeping the eyes set on the long term change that is envisioned.

Center for Educational Data and Statistics

We need to establish a Center for Educational Data and Statistics, which is dynamic and real time and will be the nodal agency for collecting and analysing data related to education. (Students, Schools, Teachers, etc). This body will need to collect, collate, analyse, and report statistics on the condition of education in India; conduct and publish reports; and review and report on educational activities locally and nationally. With this we will not be left making decisions based on dated information and will be able to make quick decisions based on hard data that aligns with the ambitious goals that we have set for ourselves as a nation.

A nation that would be of close to 2 billion people - contributing to ~20% of world's population by 2072 - India has to lead the way for the rest of the world in every possible way.

My personal belief is that this kind of educational reforms would create a strong foundation for our society and for the world. With the human resources, knowledge power and by being the largest and lasting democratic nation in the world, the only hope we have for such a Bharat in 2072 - is our education system.

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The importance of apps in the process of teaching-learning

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It's a constant fact that education is the most powerful tool that one can have to be successful in life. How much success one gains depends on how this tool is used.

The coronavirus pandemic, however, has seriously crippled the education system in the last two years. As a result of this crisis, millions of kids around the world were unable to attend school.

As the various stakeholders work to address challenges and plug the gap, some underlying vulnerabilities in the education system have become apparent. However, as time has shown, we, as humans, have persevered by being adaptive.

Nothing stopped us. We changed the way education is conducted. We made use of

technology and continued with the process of education impartation. The learning apps were one of the key components of educational technology that helped learners bridge the gap in that regard.

Online learning apps are easy to access, meaning students can learn at their own pace. These apps provide a great way for students to access information on any topic. They offer interactive tutorials, videos, online courses, live sessions, and more for all types of academic subjects.

As the world shut down, education endured through the use of learning apps.

As stated earlier, the pandemic was a global catastrophe that killed millions of people and disrupted the lives of billions. In time, we have gained a better understanding of its impact on society.

When we saw the harm it was causing our kids by halting their education, we realised its severity. However, we overcame this to a huge extent with the help of online education apps.

These learning apps constitute a significant component of the future of education.

Since they are flexible and can be accessed anytime, anywhere, their demand increased exponentially during the pandemic. An important factor that has contributed to the growing demand for learning apps is the availability of high-quality academic materials from educators all around the world.

These apps help keep students up-to-date and ensure that they don't fall behind in their academic endeavours. The aim is to enable learners to gain a distinct edge with the help of blended learning, i.e., through textbooks plus app-based

knowledge.

The Untold Challenges

Even though there are remarkable prospects for educational apps, the road has not been all rosy. A lot of challenges have come along the path. One of the first challenges has been with respect to operating the applications. In most cases, neither the teaching staff nor the parents nor the children are used to employing apps for learning purposes.

Secondly, most learning apps offer informal learning, and the contents are majorly scattered and not in sync with the classroom teachings.

Besides, the inability to support various content types has also turned out to be a major challenge for the apps.

Overcoming the Challenges

We have seen that once the realisation hit that there was no clarity as to when the pandemic would end, both the learners and the educators became more accepting of the idea of bringing in a technological aid in the form of learning apps to supplement the traditional teaching methods.

Even the app developers began working on the weak points to help make a strong place for the learning apps in the market.

Ideally, if learning apps are designed in such a way that they offer ease of access, support various media types, have a well-built content plan, and enable easy communication between teachers and parents, it can help make a special place for learning apps in the education world by overcoming the challenges.

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