

Subhajit Ghosh

Today, the performance of faculty members in most academic institutes, especially in Engineering, is being judged by their research output. However, this begs certain pressing questions. Why is it so much thrust being put on the ‘research’ component for career advancement when a large number of institutions do not have a sound research infrastructure, unlike some premier government-funded tech institutes? Why is it not sufficient if faculty focus on imparting skills to students through innovative teaching and lab-related work, along with additional responsibilities such as mentoring and career guidance? Of course, with rapid developments and changes in technology, faculty members have to upgrade their knowledge to help students learn and evolve.

As of now, there are not too many effective guidelines to assess a researcher’s true potential. A key yardstick of assessment is the citation index. Many institutes have been rewarding faculty researchers based on their citation index, which translates to having a good citation score in indexing sites such as Google Scholar, Scopus, Web of Science, Research Gate, and others. This system is a catalyst to some faculty researchers producing quantitative research and even being mentioned as the top 1% or

Need for quality checks

What is required is a metric to evaluate constructive research contribution, rather than going by the citation index



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2% researchers in a list by a top-ranking world institute.

Limitations
Evaluating research contributions through citations can be erroneous. Assume

that a researcher makes a crazy claim and writes a number of bad research papers. It is obvious that an avalanche of criticism from expert researchers in the area will follow. This will enable the researcher to

become one of the most cited researchers with a good citation index. The moot question is: how do we evaluate what is ‘good’ and what is a ‘less acceptable’ research. There are additional issues of ghost

writing of research papers and the problem of predatory journals.

There have been instances of researchers routinely flaunting their Google citation count and h-indexes of their research

on social media, which are higher than the citation count of few internationally-acclaimed Indian researchers. It would be a stretch of imagination to conclude that such researchers are superior than the internationally-acclaimed ones. One can always come up with a counter-argument as to why not?

The objective is not to belittle researchers having an impressive citation count. As outlined earlier, high citation count can arise out of not-so-great research. It can also increase when researchers form a group and keep referencing each other within the group, often with little reason. Many universities/institutes have started rewarding researchers based on the number of index papers and citation counts in the absence of a more comprehensive measure for qualitative research.

Unless we develop a good enough metric to evaluate constructive research contribution, it will be difficult to bring ethical practices in academic publications in most institutions. There is a need for the people at the helm of policy-making committees in these institutions to ponder over and stem the flow of a large number of publications with insignificant contributions, written merely to increase the count number.

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SCHOLARSHIPS

IDRBT Summer Internship Programme

Provided by the Institute for Development and Research in Banking Technology (IDRBT)
Eligibility: Open to students in the penultimate year of PG or Management programmes or a four-year Engineering degree course in a recognised institution
Rewards: ₹12,500 monthly
Application: Email isip@idrbt.ac.in
Deadline: April 15
www.b4s.in/edge/IDSII

Flipkart Foundation Scholarship

An initiative from Flipkart Group to support children of those who own small grocery stores
Eligibility: Students in the first year of a professional STEM UG course at a government college who have scored at least 60% in Class 12 and whose one

parent is a kirana store owner. Annual family income should not exceed ₹500,000.
Rewards: ₹50,000
Application: Online
Deadline: April 16
www.b4s.in/edge/FLIP1

University of Sheffield International UG Merit Scholarship

Offered by the University of Sheffield, the U.K.
Eligibility: Open to students who are citizens of India and have received an offer to pursue full-time UG course at the institution and have secured 60% marks or more in the previous academic year and are classified as a self-funded student for tuition fee purposes
Rewards: £10,000 annual
Application: Online
Deadline: April 22
www.b4s.in/edge/UGMSI

Courtesy: Buddy4study.com

Competition

The James Dyson Award, an international design and engineering competition, invites submissions for 2025.

Eligibility: Current students of Engineering, Product Design and Industrial Design or those who have graduated in these subjects in the last four years. If

entering as a team, the team leader must have studied one of the qualifying subjects, and all team members must be (or have been within the last four years) enrolled for at least one semester in an undergraduate or graduate programme.

Deadline: July 16
More information is available at www.jamesdysonaward.org/

Seek professional mentoring



OFF THE EDGE
Nandini Raman

I graduated from AFMC Pune but realised that patient care is not for me. In Class 12, I also did Maths. If I want to switch careers, which degree or certification would be useful for working in medical technology companies? Also, If I have to stay in this line, which other countries have a routine that is not hectic for doctors? Sahil

Dear Sahil,
It is courageous to recognise that your initial career path is not the right fit and to explore alternatives. Your Maths background provides a strong foundation to transition MedTech with PG options in Biomedical Engineering/ Technology, Bioinformatics, Data Science/ Analytics, Public Health (Health Informatics or Biostatistics), or even an MBA (Healthcare Management or Technology Management). Also consider certifications in specific software or technologies, regulatory affairs or quality management.

Seek internships in MedTech companies to gain experience and build connections. Undertake projects such as developing a simple medical device prototype or conducting a data analysis project on healthcare data. Attend industry events, conferences, and webinars to network. Some countries known for better work-life balance for doctors are The Netherlands, Germany, Australia, Norway, Sweden, and Denmark. However, you need to research local licensing requirements and see if your

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

AFMC degree is recognised there. You also need to learn the local language to practise in a non-English-speaking country.

I finished B.E. Civil Engineering and am working in a construction company for two years. How can I move to the next level? Ajaish

Dear Ajaish,
Specialise in a specific area like Structural Engineering, Geotechnical Engineering, Transportation Engineering, Water Resources Engineering, and so on. Stay updated with the latest in technology, materials, and construction methods. Work on your management and leadership skills, especially in project planning, budgeting, scheduling, and execution. Consider pursuing a Project Management Professional (PMP) certification or a Professional Engineer (PE) License, or certification in LEED AP for sustainable design or other certifications. Consider an M.Tech. or M.S. in Civil Engineering or an MBA as it will open doors to management and leadership roles. Join professional organisations and seek mentors who can provide guidance and support.

I am a B.A. Economics graduate. I'm confused about my career options. I'm preparing for CAT but am not sure about a career in the corporate sector. What should I do? Muskan

Dear Muskan,
Reflect on your values, interests, and skills. An MBA is seen as a direct path to the corporate world, but it is not the only destination. The

skills gained — analytical thinking, problem-solving, communication, leadership — are valuable in different sectors. An MBA (and your Economics background) could be valuable like the public sector in policy analysis, economic development, or public administration; in the NGO sector in fundraising, programme management, or organisational leadership or social entrepreneurship. You can also consider doing a Master's or Ph.D. in Economics. Speak to professionals from the fields you are interested in to understand more about their roles and jobs and seek professional mentoring.

I am a 20-year-old from Kupwara, Kashmir. I am in the final year of my B.A. from IGNOU and working part-time. I scored 94% in Class 12 (PCB). I now have some financial independence and want to change my circumstances. Should I prepare for the CAT or UPSC exams? Or work towards scholarships to study abroad? Hilal

Dear Hilal,
Your resilience and determination are inspiring. Meet a career counsellor who can help identify your personality, interests and skills. Are you drawn to business and management, public service, or a specific academic field? An MBA will open management roles across various industries, leading to higher salaries. However, it requires significant time, and financial investment (tuition fee and living expenses) and the competition for top programmes is fierce.
Government jobs via the UPSC offer job security,

social status, and the opportunity to serve the community but the preparation is long and demanding and success is not guaranteed. Have a time-sensitive Plan B career choice while you prepare for the exams..

Securing scholarships to study abroad is highly competitive, and you will need to do extensive research on visa requirements and post-study work options. While scholarships reduce the financial burden, you will still need to consider living expenses, visa costs, and travel expenses. You also need time to research programmes, prepare applications, take standardised tests like IELTS, TOEFL, GRE, and so on.

Given your PCB background, consider paramedical courses, healthcare management or public health programmes, as they also lead to stable, fulfilling careers. After graduation, upgrade your skills by joining relevant online courses and certifications in digital marketing, data analysis, or project management to enhance your job prospects.

India Post also has internal exams for employees to move up the ranks. Does that resonate with you? Instead of making a drastic change, consider a gradual transition, as maintaining financial stability gives you so much confidence. Talk to professionals in different fields and learn about their career paths before you make a decision.

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

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

Going beyond coal

Prof. Pradip Swarnakar, founder and coordinator, Just Transition Research Centre (JTRC), IIT-Kanpur, on what the Just Transition concept means for India



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Liffy Thomas
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While the global shift towards renewable energy is creating opportunities for employment, achieving energy transition goals requires a multidisciplinary and data-driven approach. Educational institutions have to be alive to this requirement.

These are among the thoughts that emerged from a conversation with Prof. Pradip Swarnakar, founder and coordinator, Just Transition Research Centre (JTRC), IIT-Kanpur, on the sidelines of a workshop organised by the Earth Journalism Network and JTRC.

Edited excerpts from the interview:

What is the JTRC all about?

The centre at the Department of Humanities and Social Sciences was started in 2021. Our work can be categorised into three areas: conducting research to address the academic and policy requirements at the national and state levels, capacity building and taking impact assessment for projects and policies. The centre's foundational research



activities started with the Climate and Energy Policy Research Lab (CEPRL), with initial focus on coal and thermal power plants. Now, we have students working in diverse areas such as electrical vehicles, agriculture and renewables. Besides Ph.D. and post-doctoral researchers, our team consists of scientists and research associates from diverse backgrounds.

There is an assumption that the renewable energy sector needs people with a high level of technical skills. How true is this?

Sustainable development of the renewable energy sector requires candidates with a multidisciplinary approach who, apart from their expertise, have basic

knowledge of both disciplines from the sciences and humanities. This will ensure that these technologies are socially integrated and accepted. We also need people with a background in environmental science, economics and policy to address the environmental, social and economic challenges that may hinder the renewable energy expansion. We have students from the disciplines of Philosophy, Sociology, Political Science, Psychology and Literature working on different aspects of climate and energy.

Just Transition seeks to support those who are vulnerable to challenges posed by a green economy transition including people and communities whose livelihoods are linked to fossil fuels, and those who would be adversely impacted if policies are not designed in a socially progressive way. What is the opportunity for just transition in India?

The concept originated in the West and differs significantly in India in terms of economic development, energy sources and level of reliance on fossil fuels. While in other countries, sources like oil and gas have

had parallel significance; in India, coal has been and still remains the main source of energy that has driven the economic development of the country. So as a major coal-dependent country, the first thing we need to do is to assess the potential adverse impacts of a coal phase-down for the huge coal workforce and communities.

For this, we need to redefine just transition for India. This would essentially require plugging major data and knowledge gaps to formulate a just transition framework that can accommodate the unique challenges of the country. Coordinated efforts need to be made for diversifying the economies of the Indian coal regions so that the communities can be made self-sufficient.

Our students can be important in creating knowledge that can be useful to the community and the government. For example, if the government says we need a national action plan for just transformation, then JTRC is like a think-tank that can consult, frame policies and initiate stakeholder engagement.

Why do we need more youngsters to take up careers in the green and just transition space?

First, the renewable energy sector is estimated to create a large number of employment opportunities in the coming years. Second, India has a huge youth population and pressing employment challenges. Third, our research has highlighted wide gaps between skills, aspirations and opportunities among youth in coal regions. So green energy transition can be a great opportunity to mitigate existing challenges associated with youth and employment. Youngsters can leverage the opportunities for quality employment offered by the transition. The integration of youth with the green energy sector can be accelerated through targeted interventions aimed at skilling.

Vinu Warrier

Transitioning to college is a transformative phase, but stepping into a new cultural environment adds layers of complexity. Whether one moves within the country or goes abroad, challenges such as language barriers, academic expectations, new social norms, and unfamiliar cultural practices can be overwhelming. In such situations, self-advocacy and ability to articulate one's needs is indispensable in empowering students.

At the heart of self-advocacy lies self-awareness. Understanding one's own needs, values, and boundaries is crucial when navigating unfamiliar environments. This clarity helps students confidently engage with new dynamics, set personal boundaries, and resolve conflicts while staying true to their core values. Self-awareness also fosters humility, enabling students to acknowledge mistakes and make amends, a critical skill in settings where interactions with varied cultural perspectives are common.

Essential aspects

Assertiveness and effective communication are essen-

tial. Many students hesitate to express their needs, fearing judgment or misunderstandings, particularly when language barriers are involved. Using translation tools or support groups can help. Assertiveness is not about being aggressive but about communicating one's needs respectfully and clearly. For instance, learning to say "no" in a polite yet firm manner helps students navigate peer pressure without causing conflict.

Confidence is equally critical. Confident students are better equipped to face challenges, make decisions, and voice their opinions. Building confidence requires practice and involvement. Joining student clubs provides a safe space for students to express themselves, develop leadership skills, build a support network, fosters social integration and boosts resilience.

Knowing where to seek help is a cornerstone of self-advocacy. Unlike high school, where support systems are readily accessible, college demands initiative. Universities often offer a variety of resources tailored to student needs. Mental health counselling is especially beneficial for those grappling with ho-



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plays a significant role, offering personalised guidance and support for long-term academic and career aspirations.

For students moving abroad, the international student office serves as a lifeline by assisting with visas, cultural adjustment, and administrative needs. Often, they organise orientation sessions to help students acclimatise to campus life. These are a crucial first step in understanding what resources are available to navigate the new environment confidently.

Social life

Peer relationships form the backbone of a student's social life. Moving to college introduces students to diverse social circles, offering opportunities to learn and grow. Joining clubs or organisations aligned with personal interests creates a space to build friendships and a support network and to practice self-advocacy, openly expressing one's values and opinions. When faced with peer pressure to engage in uncomfortable activities, assertiveness becomes vital to maintaining personal well-being and respectful relationships.

Balancing academic and personal goals requires effective time management. College life can be de-

manding, with deadlines, social obligations, and self-care competing for attention. Tools such as planners, calendars, and task management apps help students stay organised and reduce the risk of burnout. Time management is especially important for international students adapting to new cultural norms, as it allows them to balance academic success and social integration.

Attending orientation programmes and diversity workshops helps students understand the social norms, behaviours, and communication styles of the host culture. Not only does this ease cultural transitions but also provide opportunities to connect with peers facing similar challenges. Such networks foster belonging and mutual support.

Self-advocacy is not just about individual empowerment but also about building a supportive community. By leveraging campus resources, forming meaningful relationships, and articulating their needs, students become self-aware, assertive and resilient while navigating college life with confidence and purpose.

The writer is Managing Partner and Founder, eduVelocity.

Speak up for yourself

Understanding one's own needs, values, and boundaries is crucial when navigating unfamiliar environments in college.

mesickness, anxiety, or cultural adjustment. Similarly, academic advisors provide guidance on coursework and study strategies, helping students plan their academic journey

effectively.

Residential life is another area where self-advocacy plays a vital role. Students often need to navigate challenges independently from roommate

conflicts to housing issues. Residential life offices or student affairs departments can offer support in such matters. Additionally, for career preparation, the career placement office is

an invaluable resource. By attending workshops, career fairs, and networking events, students can enhance their employability and explore opportunities. Faculty mentorship also



VENKATACHALAPATHY C.

Strengthen the foundation

How the quality of education in rural government schools can be improved



WIDE ANGLE
Albert P' Rayan

Most parents prefer private schools to government schools for their children, willingly paying substantial amounts to "buy" education. Aware of this demand, many private schools compete aggressively to attract parents through extensive advertising, treating admissions as business transactions. Often, they demand hefty "donations" during enrollment and charge exorbitant fees under various pretexts. Parents too contribute to the commercialisation of education because they believe that private institutions provide a superior learning experience and prepare their children for the "job-market".

Those who cannot afford the escalating costs of private education send their children to government schools. Ironically, even government school teachers often do the same. If education is reduced to skill development and exam preparation, many private schools in cities and large towns outperform their government counterparts for obvious reasons. But this does not mean that all students in government and aided schools lack skills or merit.

Recently, comparisons between government and private schools have become increasingly common, with the former being portrayed as institutions whose students lack the skills required for their respective classes.

Educacionists and activists have raised concerns that government schools in rural areas are being neglected by authorities, resulting in students' learning levels falling far below standard.

Skills lacking

According to the *Annual Status of Education Report (ASER) 2024*, a nationwide household survey assessing children's foundational reading and arithmetic skills in rural India, at the national level, only 27.1% of Class 3 students and 48.8% of Class 5 students could read a Class 2 text. In arithmetic, 33.7% of Class 3 students could solve a basic subtraction problem, while only 30.7% of Class 5 students could solve a division problem.

The ASER survey for Tamil Nadu, which assessed around 29,000 students between three and 16 years across 876 villages in 30 districts, shows alarming gaps in foundational learning. In 2024, only 12% of Class 3 students (13.2% in government schools and 9.4% in private schools) and 35.6% of Class 5 students (37.0% in government schools and 32.3% in private schools) could read a Class 2 level text. In arithmetic, 27.6% of Class 3 students could solve a basic subtraction problem, while only 20.2% of Class 5 students could solve a division problem.

This has led politicians and educators to question the state government's claim that Tamil Nadu is a model state for education. Does the data really reflect the ground reality? How scientific was the methodology? Was the report prepared with any hidden agenda?

Measures for improvement

Although the TN government has challenged the report's credibility – and educators and government school teachers I spoke to believe it does not reflect reality – it is high time the state government critically assessed whether students truly possess the skills expected at their respective levels.

Recently, a retired profes-

sor with extensive experience in teacher training and teaching reading skills expressed concern over the decline in reading abilities among children in Tamil Nadu in a social media post. Emphasising that it was possible to reverse this, he proposed a three-week intensive reading programme for children across the state during the summer, along with a two-day training for teachers.

This prompted me to discuss the issue with several educators and teachers. This challenge or learning gap is not unique to Tamil Nadu; nearly all states in the country were affected by the pandemic and are yet to fully recover. If the TN government is truly committed to bridging the learning gap caused by the pandemic and improving the quality of education, it should:

- Form a committee of educationists and activists to critically analyse data from the past three ASER reports and prepare an objective report and action plan to enhance education in rural schools.
- Conduct another survey, if necessary, in rural Tamil Nadu along with NGOs and voluntary organisations to assess students' learning levels.
- Make efforts to strengthen infrastructure in government schools.
- Ensure proper utilisation of the ₹46,767 crores for school education, including ₹1,000 crores specifically earmarked to improve infrastructure in government schools.
- Prioritise in-service training and professional development of government school teachers.
- Leverage the expertise of retired teachers, trainers and other willing volunteers to train teachers.
- Review the effectiveness of the Ennum Ezhuthum scheme and continue it if it has proven to be beneficial.
- Extend monitoring and support not only to government schools but also to private schools to ensure quality education across institutions.
- Encourage regular parent-teacher meetings, since parental involvement is a key factor in student motivation.

Access to quality education remains a huge challenge in rural areas, influenced by multiple factors that affect student learning. By investing in infrastructure and implementing targeted measures to bridge the learning gap, the government can foster trust and demonstrate that rural government schools are an integral part of the broader education system, rather than isolated entities.

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The next in the monthly series by WWF-India that highlights niche and unconventional green careers through the stories of well-known personalities from the field of environment and conservation

Growing up in Mumbai, my connection with Nature began early. My house was near Borivali National Park, which became our go-to picnic spot during vacations. I often spent my weekends exploring the park, learning about birds, butterflies, and snakes. My love for the outdoors deepened while pursuing B.Sc. in Zoology, especially during a final-year field trip to Lakshadweep, to study the marine ecosystem. I knew I wanted to dedicate my life to ecology.

So, I enrolled in a Master's in Ecology at Pondicherry Central University. I was so eager to get in that I convinced myself I had to outperform every other candidate in the entrance exam. Over the years, I have strengthened my expertise with certifications in tropical forest restoration, stakeholder engagement, and conservation essentials.

My career has taken me across India, from working as a Research Associate at the Madras Crocodile Bank Trust in Tamil Nadu to engaging in environmental education initiatives in Mumbai. As my journey continued, I took on roles with WWF-India in West Bengal and later in Hyderabad, where I now serve as the State Director.

Sanjay Srivastava

Deciding whether to continue formal education or start a professional career is a crucial choice that many individuals face. With both education and work opportunities evolving rapidly today, it's important to weigh the pros and cons of each option carefully.

Career goals: First, look at your aspirations. Certain fields such as law, engineering, healthcare, research, and academia require higher education to enter or advance, as they typically have structured educational paths and an advanced degree is often necessary for specialised roles. However, in industries like technology, marketing, business, and design, practical experience is often more valuable than formal education, as they tend to prioritise skills over degrees. If your career goals align with such industries, starting a job immediately might help you develop relevant skills faster.

Financial issues: Higher education typically involves a significant financial investment. For those who already have student loans or face financial con-

GREEN CAREERS HUB Learning from Nature

Farida Tampal, State Director of WWF-India, on her passion for conservation



The diversity of experiences has helped me understand conservation challenges across different landscapes and communities.

A typical workday is dynamic, balancing office responsibilities, meetings with government departments, public engagements, and field visits to forests across Andhra Pradesh and Telangana. The most exciting part is being outdoors, learning from people, especially tribal communities who have an incredible understanding of their environment. I'm also passionate about engaging

with students, as their challenging questions keep me on my toes and encourage me to stay updated. Citizen science is something I strongly advocate for, as it plays a crucial role in bridging the gap between people and Nature.

Raising awareness

One of the biggest challenges in conservation is changing people's attitudes. Many remain indifferent to environmental issues, making it vital to educate them. To address this, I focus on education through talks and training

programmes. Convincing policymakers to adopt science-based decisions is another hurdle, as short-term priorities often overshadow long-term sustainability. I tackle this by advocating for evidence-based policymaking, ensuring that conservation efforts are backed by solid data.

Despite these challenges, my journey has been full of rewarding experiences and moments of joy. One memorable incident took place in a wetland, where my colleagues and I were documenting plants and animals. Suddenly, one of my colleagues slipped and fell and like a pack of cards, one by one, we all followed suit! No matter how hard we tried, we kept slipping and falling. It was both frustrating and hilarious, and we couldn't stop laughing at the sight of each other tumbling down!

Looking ahead, I aspire to become a 'nature evangelist,' someone who not only protects ecosystems but also inspires others to appreciate and value Nature. I believe that conservation conversations need to happen in multiple languages and reach diverse audiences to truly create change.

To students and young professionals considering a green career, my advice is go for it. Few people get the opportunity to study and work in a field they truly love. Conservation is challenging but immensely rewarding. Nature is a great teacher; if you choose to listen, you will never stop learning.

aiming for roles in academia, research, or senior management, further education may be a stepping stone to career advancement. However, gaining work experience can also allow you to move up within an organisation, particularly in industries where hands-on skills are valued. You'll also build a professional network that can lead to growth and promotion. Moreover, gaining practical experience can help you determine whether you truly enjoy the work, which can be valuable before committing to additional education.

Seek advice: Before making a final decision, seek advice from mentors, industry professionals, and individuals who have already navigated this situation. Researching industry trends and gaining insights into what employers are looking for can give you a clearer picture of the better route. Deciding whether to pursue further education or take up a job is not a one-size-fits-all decision. Whatever the decision, align your path with your long-term career goals and personal values.

The writer is Vice Chancellor, Manav Rachna International Institute of Research and Studies.