

EDUCATION PLUS

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Selvam Jesiah

Self-directed learning (SDL), also known as 'active learning' or 'deep learning', is a learning methodology where learners take primary responsibility for planning, implementing, and evaluating the effort. Even though SDL supports one's continuous growth and development, it is largely misconceived, and badly administered by academia and students resulting in the latter not taking the fullest advantage of selecting, managing, and assessing their learning activities.

The Indian education system is largely obsessed with regular classes stuffed with more lectures and fewer practice sessions resulting in no room for students to reflect and handle things independently. There is no doubt that regular lectures help learners to become informed and knowledgeable but learning without deep understanding and self-construction of ideas may go in vain. Regular lectures are a teacher-centric approach leading to spoon-feeding that, in the long run, teaches the student nothing.

What is SDL?

The best educators design and develop their courses and methods to effectively prepare students for future careers, often by using various active and proactive learning techniques. SDL is one active learning technique that shows great promise in preparing students for their lives and careers. Further, students develop new insights by interacting with and transmuting received information to own it and make it personally meaningful.



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Own your education

Self-directed learning contributes positively to the curiosity, creativity, motivation and satisfaction of students.

While designing and developing the curriculum, educators must allocate a significant number of credits to SDL in addition to lectures and practicals. The course plan should depict the units and topics where and when SDL methodology may be used.

Educational research has shown that SDL is positively associated with academic efficiency, performance, and productivity and, above all, will significantly contribute to learners' curiosity, creativity, independent learning, intrinsic motivation, and life satisfaction. Research also shows that curiosity, creativity, and intrinsic motivation

have a positive effect on creative and innovative performance. That's because when students are innately motivated, they feel a sense of ownership over their assigned tasks and learning, deep-dive into its metaphysical meaning, brush up on relevant skills that will make them more competent, and feel confident in their assignments.

SDL also contributes immensely to the readiness of students for their jobs and careers, irrespective of their education. It is highly emphasised even in medical education, primarily to produce learners who can manage their learning in their careers. There is an increase in the adoption of problem-

based learning (PBL) that underscores SDL. It is because health professionals need to be self-directed to enhance goal orientation, motivation, self-discipline in practice, independence, timeliness, and continual methodical learning owing to the knowledge explosion, medical advancement and new procedures.

There is a lack of understanding as to how SDL can

SDL is a powerful approach to nurture growth and life-long learning in a rapidly changing world but it is neither widespread nor popular in the Indian education system.

be used. Many think that SDL should be initiated by teachers while others assume that students should take complete ownership of the learning process. SDL becomes more effective when teachers and students are together involved in achieving the expected level of learning.

How to use it

Teachers should be facilitators where they explain a topic and promote collaborative sessions in class by asking questions, and students should read intensively to bridge the knowledge gap identified. This may induce the student to study beyond class hours to complete the task or solve the gi-

ven problem.

Teachers should create curiosity among students by sustaining interest in topics, explaining the importance of solutions, and adequately questioning them during discussion hours. This is how learning may be stretched outside classrooms and can be converted from teacher-centric to learner-centric, where students make use of the outside classroom hours for their learning.

What deters SDL is that students are assessment-oriented. Unless SDL is subject to assessment, the student shows no interest. Hence, the formative assessment, which is part of the overall assessment, needs to consider the performance of students in assignments and tasks given under SDL.

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The writer is Professor and Principal, Faculty of Management Sciences, Sri Ramachandra Institute of Higher Education and Research (Deemed to be University), Chennai.

SCHOLARSHIPS

The Glasgow MBA Scholarship

An initiative from the University of Glasgow.

Eligibility: Open to citizens of India who hold an unconditional offer for the September 2024 MBA programme intake or a conditional offer contingent only on their IELTS score, and have had a successful MBA interview and demonstrated a strong academic record (first-class honours).

Reward: €18,750 one time

Application: Online

Deadline: July 26

www.b4s.in/edge/UGAS4

Kent Future Student Scholarship for Indian Students

An initiative from the University of Kent

Eligibility: Open to Indian nationals with a valid passport who have applied for a full-time UG or PG course for September 2024 intake and have paid their tuition fee by June 30 or July 31. They should not be receiving the GREAT Scholarship or the India Women in Leadership Scholarship.

Reward: Discount in tuition fee up to £5,000

Application: Online

Deadline: July 31

www.b4s.in/edge/IFSL2

India Fellow Social Leadership Programme

An 18-month leadership programme to help participants develop their skills

Eligibility: Open to Indian citizens between 20 and 30 years who are graduates in any discipline or will graduate before start of the fellowship. Applicants must be ready to commit 18 months to the fellowship and to serve in any part of the country.

Reward: Up to ₹22,000 monthly and other benefits

Application: Online

Deadline: August 15

www.b4s.in/edge/IFSL2

Courtesy: Buddy4study.com

SAVE THE DATE

Admissions

The University of Sheffield, the U.K. invites applications for its four-year B.Sc. Computer Science (Artificial Intelligence) with an Industrial Placement Year.

Eligibility: Between 80 and 90% in Class 12 (depending on board) with Maths and Computer Science as subjects; IELTS grade of 6.5 with a minimum 6.0 in each component or equivalent. <https://tinyurl.com/5d2m32b5>

The Design Village invites applications for its Bachelor of Design (B. Des.) and Master of Design (M. Des.) programmes for 2024-25.

Eligibility: For B.Des., at least 50% aggregate in any stream in Class 12 board exam or equivalent. For M.Des., minimum aggregate of 50% in undergraduate course in a related creative field.

Deadline: July 15 <https://apply.thedesignvillage.org/>

The Institute of Bakery and Culinary Arts (IBCA) has opened admissions for Culinary Arts and for Bakery and Pastry Arts.

Eligibility: Pass in Classes 10 and 12 board exams from a recognised Board of Education

Deadline: July 15 <https://www.chefiba.com/>

Shiv Nadar University Chennai has launched the Shiv Nadar School of Law, which will offer a five-year B.A.LL.B programme from August.

Eligibility: Marks in Classes 10 and 12 or CLAT and LSAT-India scores. <https://tinyurl.com/3k922tnt>

Widen your choices

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



OFF THE EDGE

Nandini Raman

I did Science in Class 12 (Biology stream) and B.A. English Literature. I don't know what to do next. Is an MBA a good option? Alphonse

Dear Alphonse,
An MBA will provide you with a solid foundation in business and management principles, and open doors to various career opportunities in the corporate sector, entrepreneurship, and other industries. You could take on roles in marketing, finance, human resource management, operations management, international business, and entrepreneurship across corporate organisations, finance and banking sectors, marketing, advertising agencies, HR departments, and start-ups. With an M.A. in English Literature, you could find jobs in teaching, publishing, journalism, content writing, copywriting, editing, and public relations. An M.A. in Communication or Journalism can open doors in journalism, broadcasting, public relations, corporate communications, content creation, and media production. An M.A. in Linguistics could lead you to teaching and academia, translation and interpretation, speech and language therapy, and research. Consider your core strengths, passion, and career aspirations to choose a path that aligns with your long-term goals. A personality profile will also help you identify your strengths.

I am a Humanities student. I want to do a Ph.D. but don't know what I want to specialise in. If I want to study abroad, especially in West Asia, what additional qualifications do I need? Aftab

Dear Aftab,

Pursuing a Ph.D. requires a clear understanding of your interests, strengths, and long-term career aspirations. Start by self-introspection and reflect on your strengths, and academic achievements to identify potential areas of specialisation. Consult your professors and academic advisors to gain insights and advice on potential specialisations and research topics that best fit your interests. Research universities and Ph.D. programmes in West Asia that best fit your academic and research interests.

Most programmes abroad require a Master's degree in a related field. Depending on the country and university, prepare for the standardised language proficiency tests such as TOEFL, IELTS, or others if required. Gain relevant experience by participating in research projects, internships, and academic conferences to strengthen your academic profile and research skills. Apply for scholarships, fellowships, and funding opportunities to finance your studies abroad. You will need to prepare appropriate LORs and SOPs for your applications as well.

I am in the second year of B.Sc. Physics and want to do higher studies in Astronomy. Should I do an M.Sc. or an internship after graduation? Also, are there internships related to Astronomy? Hana

Dear Hana,
Pursue an M.Sc. in Astronomy or a related field and gain practical experience through internships on the side if possible. The Master's will offer research opportunities, allowing you to work on projects, collaborate with faculty and open doors to various opportunities in research institutions, observatories, space agencies, universities, and educational institutions. It will also prepare you for advanced studies and research. Look for research internships across observatories and research institutions like NASA, ESA, and ISRO, universities and educational institutions, planetariums and

science centres or astronomy organisations and societies. As you do your Master's, you will also understand if you want to pursue a research-oriented career or a one in space science, astrophysics, education, or science communication. Network and build relationships with professors, researchers, and professionals to gain insights, guidance, and opportunities for higher studies and internships.

I have finished B.Sc. Psychology and would like to do my Master's with a specialisation in Educational Psychology. What is the scope in India? Shamlee

Dear Shamlee,
Educational Psychology focuses on understanding how people learn and the educational processes that influence learning and development. The scope is vast across educational institutions (schools and colleges, across special education, remediation), universities and research institutes, government and non-governmental organisations (to draft policies, programmes and initiatives), NGOs (educational and community programmes, counselling, advocacy, educational reforms), corporate sector (in training and development programmes for employees), healthcare and mental health organisations (across hospitals and clinics) and across private practice as a counsellor or a therapist. The job opportunities include being a school psychologist, a college counsellor, an educational consultant, a training and development specialist, a researcher or an academician, a counsellor or a therapist and as a special educator or a remediation teacher.

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

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



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Design beyond language

English-only assessments in Design education lead to the exclusion of those who are rich in the knowledge of their diverse cultures and sustainable practices

Anunaya Chauhan

India is one of the most linguistically diverse countries in the world with 22 official languages and countless dialects spoken by its 1.4 billion inhabitants. Given our history, English continues to be an important official language. Though India comes second only after the U.S. for the number of English speakers, only one-fifth of its population is familiar with the language, which significantly reduces access to publicly available opportunities.

Design is an emerging field of study in India and many private universities have set up programmes to cater to the growing needs and aspirations of young Indians. The National Education Policy (NEP) 2020 called for the curricular inclusion of contemporary subjects like Design Thinking.

In India, in comparison to Engineering, Medicine and the Liberal Arts, Design institu-

terdisciplinary problem-solvers who use the design thinking process to combat real-world problems such as climate change, water scarcity, healthcare, and more. Young creative individuals are increasingly opting to pursue undergraduate, graduate, and doctoral programmes in fields that impact our built environment as well as harnesses future technology to reimagine the world.

Context aware
Such innovation requires strong creative ability, critical thinking, and analytical skills to design impactful solutions. In order to do so, the first step begins with empathy and being aware of the context or culture. Design calls for an amalgamation of logic, creativity, and Science with one's experiences and roots.

Designers are expected to be multi- and in-

tions are fewer in number. Nonetheless, a sizeable number of aspirants appear for entrance exams that are designed to test creativity, innovative abilities, and analytical skills but can admit only a limited number of students.

Testing aptitude
So far, all Design entrance tests in India are conducted only in English. Does this process effectively test aptitude? Aptitude is an individual's natural or acquired capacity or potential to acquire specific skills or knowledge.

Musical or athletic talents are assessed by demonstration and not by the individual's ability to communicate in a specific language. It embraces cognitive, meaning-making, analytical and creative capabilities which are built over time, through childhood, in one's mother tongue and local context.

Designers are expected to be multi- and in-

the globe are making our real and virtual world more liveable by thoughtfully crafting effective interaction, visual, sound and haptic experiences. Purposeful design draws from diverse knowledge, experiences and professional domains. Let us rethink, restructure and redesign the education system to empower the next generation of designers. The language and

The writer is Provost, Anant National University.

More to read?
For more articles, columns and news on admissions, visit www.thehindu.com/education

Mohit Bhargava

The Joint Entrance Examination (JEE) continues to be one of the most challenging and pivotal exams for engineering aspirants in India. Preparing for this exam is demanding, whether you're a first-time aspirant or giving the exam another shot. Here are some tips to help you on the way:

Build a strong foundation: A strong grasp of fundamental concepts in Physics, Chemistry, and Maths is essential. For first-time aspirants, this means focusing on understanding and mastering the basics from the start. Those re-taking the exam must identify and bridge any gaps in foundational knowledge. Revise core concepts regularly and ensure that you have a solid understanding before moving on to more complex topics.

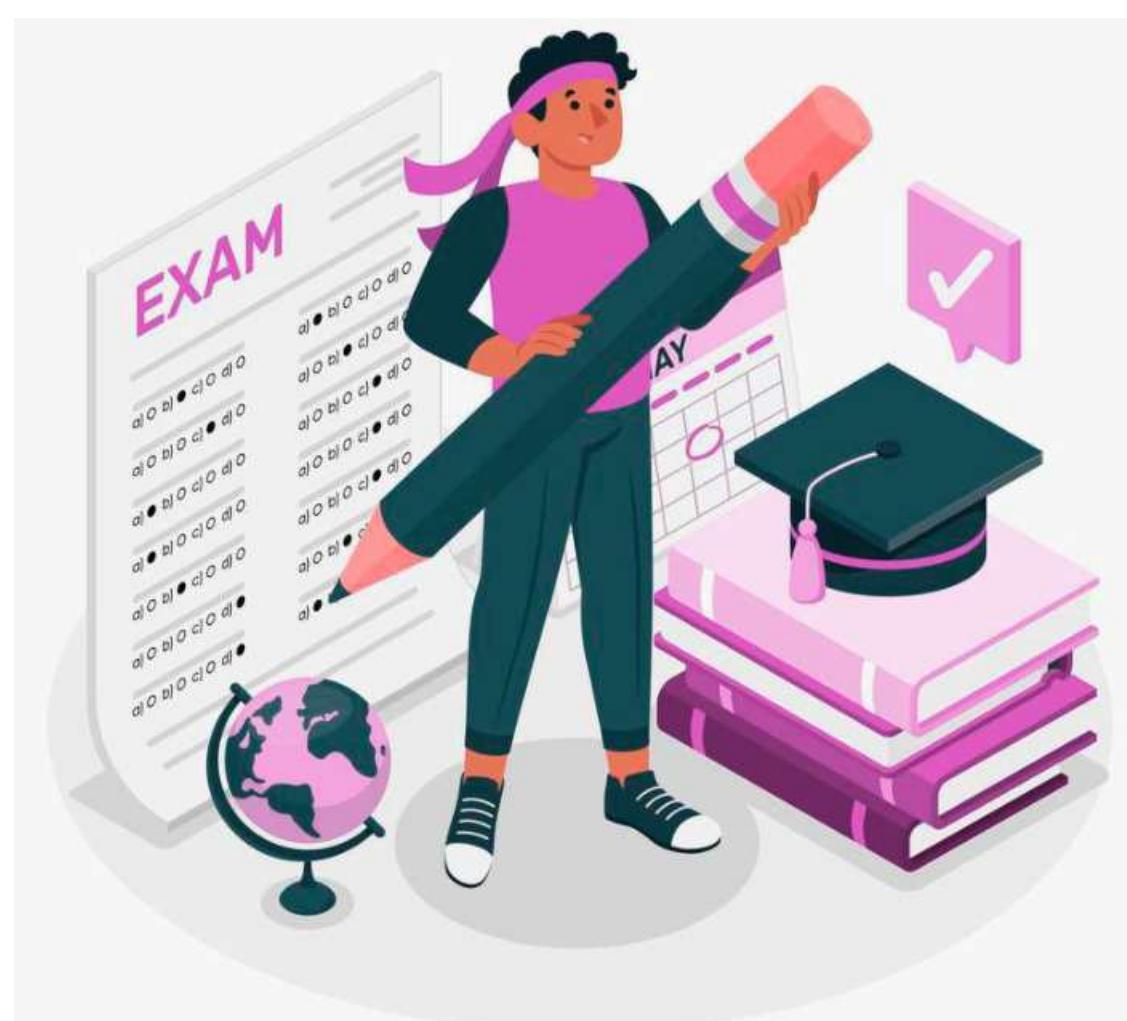
Quality resources: Selecting the right study materials makes a significant difference. Standard textbooks like the NCERT should be the primary resources, as they offer comprehensive coverage of the basics.

Additionally, consider using reference books like H.C. Verma for Physics, R.D. Sharma for Maths, and O.P. Tandon for Chemistry. Those who have taken the exam already should revisit these resources while incorporating advanced problem-solving books and materials.

Mock tests: Solving past question papers and taking regular mock tests are essential, as it helps the aspirant get familiar with the exam pattern, understand the type of questions asked, and manage time ef-

Crack the code

Tips to start preparing for the JEE 2025



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fectively. Analysing one's performance will highlight strengths and weaknesses and allow one to focus on the area that requires most attention.

past experiences without dwelling on setbacks. Regular physical activity, meditation, or hobbies can help manage stress and keep you motivated.

Stay resilient: The journey to cracking the JEE is often long and filled with challenges. It's important to stay motivated and resilient. Set realistic goals and celebrate small victories. For those taking a second shot, maintain a positive mindset and learn from

study plan to cover board syllabi alongside JEE topics, maximising efficiency and ensuring comprehensive preparation.

Balancing exams: Board exams and the JEE cover similar syllabi, so a unified study approach can save time and effort. Prioritise board exams in the months leading up to them, as they are crucial for your overall academic record. Post-board exams, shift your focus to JEE preparation, lev-

eraging the foundational knowledge you've built.

Revision: Two to three revisions are crucial to understand and master the concepts. During the final stages of preparation, focus more on revision than tackling new questions. Full-syllabus tests and their analysis also play an important role during revision.

The writer is an educator at Unacademy for JEE Exams

YOUNG ACHIEVER

Weeding out farmer difficulties

A young innovator from Rajasthan explains how he built a special solar-powered weed-killing machine

Ramdhani Lodha

Weeds are to farmers what parasites are to the human body. They have no business being there and the faster they are gotten rid of, the better. I grew up in a farming family in Rajasthan seeing my father and other farmers in my village struggle with weeds that, if left unchecked, could potentially wipe off months of hard work.

While there is no dearth of weed-removing machines in the market, they are expensive, clunky, noisy and polluting too because they run on diesel. Before hitting the drawing board, I was sure that I did not want to build yet another product that did not offer anything new, let alone solve the challenges farmers were facing with available machines in the market.



ter will have a lasting impact. A key motivator for me was to make the life of small landholding farmers a little better. I have been working on this weed-removing machine since I was 15 years. I developed the first prototype in Class 10. After more than three years of work, I came up with this hybrid multi-functional weed remover that ticked several important boxes. It is light; therefore, easy to carry around. It is solar powered and does not require diesel. The built-in rechargeable battery, allows for operation even after sunset. In addition to removing weeds, it can also handle sowing, spraying, and other tasks through its various attachments.

At the challenge
When I first heard about the Indian Silicon Valley

Challenge in November 2023, I knew that I had found the platform to showcase my first product, which is also so close to my heart. I was up against stiff competition from more than 18,000 students like me from all over India. I felt that my chances of winning were minuscule and that there would be other opportunities in the future for me to do better. Winning a special mention by the judges and, of course, the ₹1 lakh cash prize made my day. Now, I am sufficiently motivated to patent this product, use the prize money to improve it further, and, hopefully, very soon scale it up to reach as many farmers in India as possible.

The writer is currently interning at the Young Innovator Internship Programme facilitated by the Scaler School of Technology in Bengaluru, Karnataka

Frontline caregivers

Allied health professionals are the crucial link between medical professionals and patients and encompass a diverse array of roles within healthcare

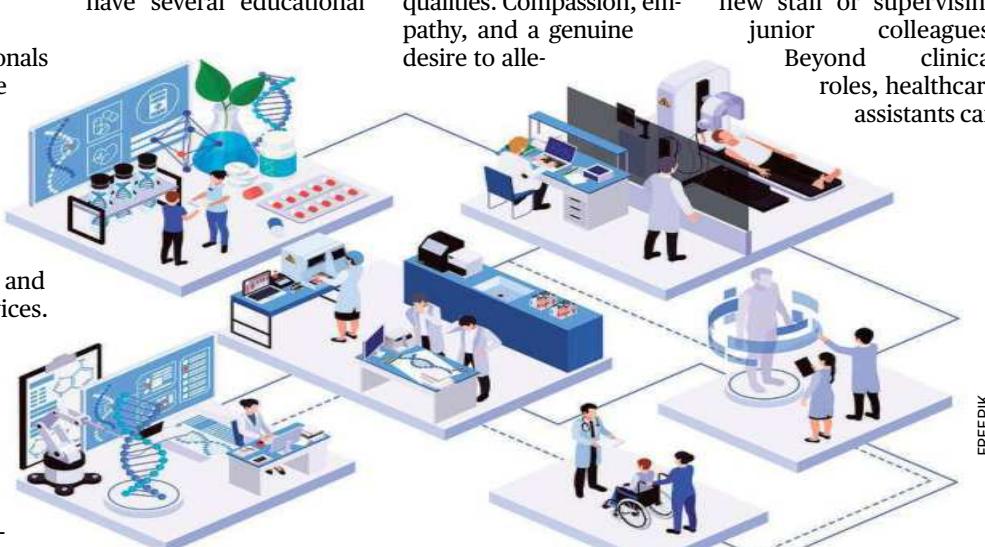
Mohit Mehra

In the labyrinth of the healthcare industry, the indispensable role of allied health professionals, also known as paramedical staff or clinical technicians, is the cornerstone of patient care. Serving as a crucial link between medical professionals and patients, these frontline caregivers play a multifaceted role in ensuring the well-being of individuals under their care.

Different roles

Allied health professionals encompass a diverse array of roles crucial for the identification, evaluation, and prevention of diseases and disorders, as well as for the provision of rehabilitative and management services. From dental hygienists ensuring oral health to diagnostic medical sonographers using ultrasound for internal imaging; from dietitians offering nutritional guidance to medical technologists conducting laboratory analyses, each profession has its role to play. Occupational therapists aid individuals regain functional independence, while physical therapists focus on restoring mobility and reducing pain. Radiographers operate imaging technology for diagnostic purposes, respiratory therapists specialise in treating breathing disorders, and speech-language pathologists address communication and swallowing difficulties across age groups.

While providing essential care and support to patient, paramedical staff as-



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pathways to consider. While a high school diploma or equivalent is typically preferred by most employers, there are options available for further education and training. Diploma programmes cover essential topics such as anatomy, physiology, patient care techniques, and medical terminology over a span of 12 to 24 months. For those seeking a more in-depth education, Bachelor's degree programmes in healthcare or related fields provide theoretical knowledge combined with practical training over three to

years. Alternatively, certificate programmes offer focused, skill-based training in specific areas such as basic life support and anatomy within a shorter time frame, typically ranging from three to 11 months. Each path provides its own benefits and caters to different career goals and levels of specialisation within the field.

In addition to formal education and certifications, allied health professionals must possess a diverse set of skills and qualities. Compassion, empathy, and a genuine desire to alle-

minate suffering are paramount, as they often interact with individuals who may be in distress. Paramedical staff may find employment in various healthcare settings, including hospitals, nursing homes, clinics, medical equipment manufacturing companies, pharmaceuticals, emergency services, educational institutions, and home care agencies.

Opportunities
In the realm of allied health professionals, various job titles and career progression pathways off-

er diverse opportunities for professional growth and advancement. Entry-level positions often include roles such as technicians, nursing assistant, or medical assistant, where individuals provide direct patient care and support to healthcare professionals. With experience and further education, paramedical staff can progress to roles such as senior technician or healthcare assistant, where they may take on additional responsibilities such as training new staff or supervising junior colleagues.

Beyond clinical roles, healthcare assistants can

transition into administrative positions within healthcare facilities, such as medical office manager or healthcare administrator, where they oversee operations, manage budgets, and coordinate patient care services.

Overall, the field of healthcare assistance offers a range of job titles and career progression opportunities, allowing individuals to tailor their professional journey according to their interests, skills, and aspirations.

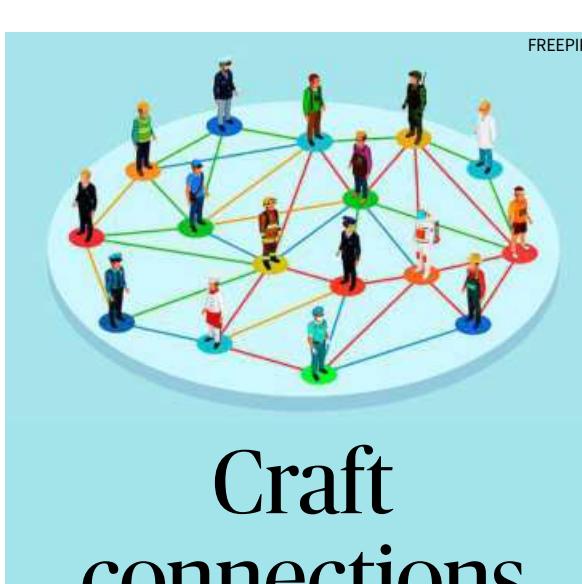
The writer is the CEO of G.D. Goenka Healthcare Academy

Damayanti Bhattacharya

In today's job market, finding career opportunities and internships might feel like navigating a maze without a clear strategy. Amongst the various approaches used by job seekers, networking stands as a formidable tool and secret weapon. According to ZipRecruiter, while referrals constitute merely 7% of applicants, they account for roughly 45% of internal hiring. This underscores the importance of networking in gaining access to unadvertised opportunities and advancing one's career.

Benefits

Connect with mentors: Networking helps you find people to guide and support you. Mentors offer advice, share their experiences, and help individuals build skills and confidence. Building meaningful relationships can accelerate one's professional development and performance.



Attend industry events: Seminars, conferences, career fairs, webinars, happy-hour networking and workshops help you increase your network and interact with like-minded professionals. A proactive approach involves actively engaging in conversations, capitalising on opportunities, and seizing every chance to exchange personal contacts. This is not only about collecting business cards but forging genuine connections that can be a two-way street.

Craft connections

Building meaningful relationships through networking can significantly accelerate professional development and performance.

ing activities increases visibility within the industry and expands one's network. Regularly attending industry events, engaging in online communities, and initiating meaningful conversations helps one stand out, ready to contribute to the field.

is crucial, mastering the art takes effort and planning. Here are some strategies to effectively use your contacts for internships and job opportunities.

Join online communities: Being a part of online platforms like LinkedIn, professional forums, and industry-specific groups is important. The idea is to unlock potential jobs by reaching out to professionals in similar fields, and with similar interests and career goals. Once users learn the trick of networking effectively with safe browsing practices, these platforms serve as an invaluable source of global connections.

Gain insights: Networking with professionals offers you a deeper grasp of industry trends, challenges, and opportunities. Initiating conversations with experts is a gateway to access first-hand knowledge and expertise.

Strategies
While being aware of the importance of networking

Ask thoughtful questions: Engage in meaningful discourse while attending networking events. Asking insightful questions that demonstrate a strong interest in the other person's opinions and experiences is an excellent method to start a discussion and stay relevant. Active listening is more than simply hearing; it demonstrates your ability to sympathise with others' experiences and recognise their point of view.

Personalised emails: In an age when social networking sites have become the primary mode of communication, taking the time to create a simple personalised email can go a long way toward cementing bonds and developing long-term professional partnerships. It exhibits professionalism and reinforces a positive impression.

The writer is Principal, Jasubden ML School and Bloomingdales Pre-Primary.

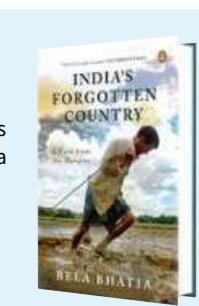
ON THE SHELF

India's Forgotten Country: A View from the Margins

Over the course of more than three decades, Bela Bhattacharya's work has brought her face-to-face with the harsh nature of people's lives in the hamlets, villages and

slums of India and the oppressive forces that rule and ruin the lives of Dalits, Adivasis, bonded labourers, women and other downtrodden groups.

This book captures her research on the Naxalite movement, her investigations of violations of democratic rights in different regions, and the ongoing conflict



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