

EDUCATIONPLUS

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Rishab Kapur

Envision a learning environment where students using VR headsets can virtually explore detailed structures of the human brain, moving through neural pathways and connections. This immersive experience is fascinating and emerging technologies like virtual reality (VR) and three-dimensional (3D) visualisation are transforming education by making abstract ideas tangible. But, even with these developments, spatial literacy remains a crucial element that cannot be understated.

What is it? Spatial literacy involves skills such as mental rotation, spatial visualisation, and understanding spatial relationships. These abilities are essential in a variety of professions, including engineering, design, architecture, data visualisation and more. With the introduction of VR and 3D visualisation, we observe an increase in spatial literacy's significance. Technologies that offer immersive learning environments may turn abstract ideas into concrete lessons and students understand difficult concepts better. Numerous studies' and findings highlight how crucial spatial literacy is to education. A National Science Foundation survey claims that students who excel in STEM (Science, Technology, Engineering, and Mathematics) courses do better when they have great spatial skills. Additionally, a survey by the American Educational Re-



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Navigating the future

Spatial literacy is a fundamental ability that students need to develop and India needs to integrate programmes into the educational curriculum

search Association found that 80% of teachers believe that incorporating 3D visualisation tools into the curriculum significantly improves students' spatial reasoning skills and understanding of the concept. Spatial literacy is a fundamental ability that enables us to interpret data and understand spatial aspects in our daily and professional lives. Many countries such as the U.S., the U.K., Australia, Singapore and Finland already have spatial literacy pro-

grammes to ensure that every student can develop spatial skills for future success. However, some many educational institutions, especially in India, still rely predominantly on traditional teaching methods. It is becoming increasingly important to close this educational gap to guarantee that our students are suitably equipped with this knowledge. **Importance** Spatial literacy plays a crucial role in STEM careers. Engi-

neers require it to design complicated structures while scientists use it to understand geological patterns and molecular formation. Its impact in Maths can be seen in solving geometric problems and visualising data. In fields like Robotics and VR, developers use spatial knowledge to make engaging 3D environments. Robotics engineers take full advantage of spatial reasoning to design the robots in a more coordinated way. Besides this, spatial skills are required for da-

ta analysts, architects, urban planners and others. Avoiding spatial literacy can bring significant risks, which will make it difficult for young minds to stay competitive in the digital world. These include: **Competitive Disadvantage:** Students who lack spatial literacy will lag in the evolving global job market. They will struggle to get selected in a big organisation as spatial literacy helps in effective teamwork and efficient decision-making.

Impact on Cognitive Development: Lack of spatial literacy will limit problem-solving capabilities and hinder cognitive development leading to difficulties in understanding newer complex topics. **Exclusion from Digital World:** If individuals want to participate in the digital world, they need to develop spatial skills. Otherwise, they cannot understand newer technologies, which further will limit their capabilities to take advantage of those innovations. **Broader Social Implications:** Limited knowledge of spatial reasoning can lead to decreased innovation and economic growth, as people will face problems in coping with quick technological changes leading to reduced productivity. There are many ways in which spatial literacy can be integrated into education to simplify understanding of critical concepts. The concept also needs to be included in teacher training programmes and professional development modules. While the National Education Policy 2020 recommends the use of tools like AR and VR to teach, implementation remains a challenge. In the future, constant advances in technology will make spatial technologies more accessible and crucial in our daily lives. So, educators, policymakers, and stakeholders must take spatial learning seriously and ensure our students can develop these skills for a better and brighter future.

The writer is the Co-Founder and VP of Strategic Alliances, Edverse

SCHOLARSHIPS

NSP Top Class Education Scheme for SC Students. **Eligibility:** Open to Indian students from the SC category who have passed the Class 12 exam with at least 60% marks and have been admitted to a UG/ PG programmes. Annual family income should be less than ₹8 lakhs. **Rewards:** ₹86,000 in the first year and ₹41,000 for every subsequent year. **Application:** Online **Deadline:** October 31 www.b4s.in/edge/SJEE2

AICTE-Saksham Scholarship Scheme **Eligibility:** Open to Indian nationals from a specially-abled category, with a benchmark disability of not less than 40% who are in the first or second year (through lateral entry) of a degree/diploma programme in an AICTE-approved institution. Annual family income should be less than ₹8 lakhs. **Rewards:** ₹50,000 per annum **Application:** Online **Deadline:** October 31 www.b4s.in/edge/ASSGI

Courtesy: buddy4study.com

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Discover your path

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



OFF THE EDGE
Nandini Raman

My brother is in Class 10 and wants to take PCM for Class 11. He wants to go into the Merchant Navy. Is this a good option? What other careers can he consider? Anshika

Dear Anshika, It's essential to consider career options that align with one's interests, strengths, aspirations, goals, skills, personal circumstances, and market demand and make an informed decision. While the Merchant Navy is a good choice, let him gather information on the roles, positions, training programmes, educational requirements, certifications, licensing, working conditions, career progression, growth opportunities, and challenges and evaluate professional compatibility with the aspects mentioned earlier. Let him also research other options in diverse fields such as Engineering, Maths, Aviation, Aerospace, Automotive, Manufacturing, Construction, Infrastructure, Logistics, Supply Chain Operations, Management, Finance, Healthcare, Law, IT, Computer Science, e-Commerce, Cybersecurity, Gaming, Animation, Design, Architecture, Environmental Science, Agriculture, Marine Biology, oceanography, Geology and others that offer growth prospects and fit his scheme of things.

I am a final-year Civil Engineering student considering a Construction Management degree in the

U.S. What are my opportunities if I proceed with this? What other courses can I think? Vinod

Dear Vinod, Construction Management combines the technical knowledge of Civil Engineering with Business and Management skills. This will enhance your ability to oversee and manage construction projects. You could become a project manager, a site manager, an estimator, a facilities manager, a real estate developer, a contract administrator, and a sustainability and green building specialist. You could also consider a Master's in Civil Engineering with a specialisation in structural engineering, geotechnical engineering, transportation engineering, or environmental engineering. An MBA or a Master's in Project Management, a Master's in Urban Planning or Urban Design, Construction Engineering or Construction Technology, or Environmental Engineering or Sustainable Construction are other options. Explore the paths available in Construction Management and related fields, and gather information about the roles, responsibilities, qualifications, skills, working conditions, opportunities, challenges, and other relevant aspects to gain insights about compatibility with your personality.

My daughter is in Class 12 (Science with Biology and Maths). She is also a sportsperson at the State and National levels. Will a B.Sc. in Sports Science be a good option for her? What is the scope of this in India and abroad? Huzefa

Dear Huzefa

A B.Sc. in Sports Science could be an excellent option for your daughter, given her background as a sportsperson at the State and National levels. The degree combines the principles of Biology, Physiology, Psychology, and Biomechanics with the practical aspects of sports training, nutrition, and performance analysis. It prepares students for careers in sports medicine, sports rehabilitation, athletic training, sports nutrition, sports psychology, coaching, and sports management. The scope in India and abroad is huge. She can be a sports physiotherapist, sports medicine physician, or sports rehabilitation specialist. Or work as an athletic trainer or strength and conditioning coach, get into Sports Nutrition, Sports Psychology, or into Coaching and Sports Management. She can also explore research and academia.

I have finished Class 12 (Maths with Computer Science). While I want to pursue CSE, my family is not well off. How and where can I find details of scholarships and financial assistance for students like me? Bharani

Dear Bharani, Do a thorough research of available scholarships, grants, fellowships, financial aid organisations, and other forms of financial assistance available for students pursuing CSE programmes in India and abroad. Visit the official websites, portals, and platforms of government departments, ministries, agencies, boards, councils, and organisations responsible for higher education, technical education, science and technology, information

technology, and human resource development to gather detailed information. Search relevant resources and their criteria such as academic qualifications, state, region, country, institution, course, programme, minority group, religion, specialisation, and other factors. Create and maintain a profile on these search engines, platforms, and directories to receive personalised scholarship recommendations, notifications and regular updates. Some resources are Scholarship Portal (<https://www.scholarshipportal.com/>), Buddy4Study (<https://www.buddy4study.com/>), Scholarship India (<https://www.scholarshipsinindia.com/>), Scholarships.com (<https://www.scholarships.com/>), Fastweb (<https://www.fastweb.com/>), College Board's Scholarship Search (<https://bigfuture.collegeboard.org/scholarship-search>), Ministry of Human Resource Development (<https://mhrd.gov.in/>), Department of Higher Education (<https://www.education.gov.in/>), University Grants Commission (UGC) (<https://www.ugc.ac.in/>), All India Council for Technical Education (AICTE) (<https://www.aicte-india.org/>), National Scholarships Portal (<https://www.scholarships.gov.in/>). Each state government also has its own scholarship portal.

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



FREEPIK

Break the silence

Educational institutions must prioritise and protect the physical and emotional health of students

Rashmi Mittal

Education is key to success and students are expected to excel in their studies. The level of competitiveness in cracking entrance exams of reputed universities has created extreme expectations. Several other factors, including peer pressure, social conventions, and the fear of failure, can lead students to experience mental stress and anxiety. Thus, there is a vital requirement to reduce this burden through strategies that prioritise and protect physical and emotional health. Universities play an important role in promoting these healthy viewpoints. According to a survey conducted by the Indian Council of Medical Re-

search (ICMR), 12-13% of Indian students suffer from psychological, emotional, and behavioural disorders. Evidently students face numerous mental health challenges at different stages of their educational journey. This is where educators and institutions can play a pivotal role in developing efficient strategies to help them cope. One way is to offer counselling and improve access to support groups. Here are some other approaches: **Normalise failure:** Educators can motivate students to accept failure as a normal part of the learning process. It teaches that setbacks provide chances for development and improvement while eliminating stress and anxiety. **Counselling centre:**

This provides a platform for students to discuss their thoughts and the problems faced. This helps them to understand their strengths and weakness, academic planning, clarify academic goals and so on. **Gamify study sessions:** Transforming learning into a game may increase engagement and reduce stress. This requires encouraging students with aspects such as points, levels, and incentives. **Create organised study area:** A dedicated and pleasant study area may improve attention and productivity. It reduces distractions and fosters a mental link between the environment and good study time. **Stress-busting events:** Universities can organise events that will help stu-

dents relax and provide a much-needed break and manage their anxiety. **Harness technology for productivity:** Students can be shown how to use technological tools to organise materials, manage time, and provide interactive learning opportunities. **Peer support networks:** A supportive network can provide motivation, share resources, offer emotional support and reduce the feeling of isolation during stressful times. Thus, universities can allow students' knowledge to be shared among peer support networks. **Celebrate progress:** Recognising small achievements can help maintain motivation and provide a sense of accomplishment, even if the ultimate goal hasn't been reached yet. **Channelise energy positively:** Positive thoughts not only encourage but also give the motivation to think out of the box. So students should be motivated to engage in activities like games, yoga, exercise and so on. Additionally, educators and institutions can also raise awareness about mental health and motivate students to talk about their concerns freely and seek professional help if needed and organise periodic programmes. This will encourage students to adopt healthy lifestyles, which requires their engagement in multiple sectors.

The writer is the Pro Chancellor, Lovely Professional University

SAVE THE DATE

Admissions and registrations Registrations for the **Symbiosis Law Admission Test (SLAT) 2025** conducted by Symbiosis International Deemed University (SIU) have begun. The computer-based test will be conducted on December 13 and 15 and the best score from the two will be considered. **Deadline:** November 22 <https://www.slat-test.org/>

Amrita University will host the International Conference on Gender and Technology, co-sponsored by UNESCO and IEEE, to explore the intersection of gender and technology. **Dates:** January 16 to 19, 2025 <https://tinyurl.com/ybnyark8>

In conjunction with the conference, the university will host the EmpowerAI Hackathon 2024 from December 16, 2024, to January 19, 2025. Details at <https://tinyurl.com/4tttzmwx>

HSBC India invites applications for the the **India Business Case Programme 2024-2025**. **Eligibility:**All UG students in

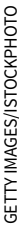
their penultimate or final year from any stream. <https://tinyurl.com/3j8se6k9>

Education New Zealand Manapou ki te Ao (ENZ) invites students from Classes 9 to 12 to participate in a digital poster design competition on Innovating for a Sustainable Future. **Deadline:** October 6. <https://tinyurl.com/3ver3k97>



Different facets

Student, confidant, friend, daughter, sister, animal-lover. Do you have multiple social identities and often find it hard to toggle and



Navigating and balancing multiple identities can help you face life with more resilience

Having multiple identities is what constitutes your “support network,” says Zinn, and can help you face the pulls and tugs of life with more resilience. If you were to do poorly in your exams, your peers

FREEPIK

Be consistent: Consistency is key. Make it a habit to read newspapers, follow news portals, and stay informed about current events. Doing this every

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