Selvam Jesiah

Not that easy

A look at the benefits of and challenges in adopting an open-book exam pattern in institutions of higher education

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Post-COVID, new methods of teaching and learning have opened up in India. Online education using appropriate technology has come to stay, though there are operational challenges with regard to mindsets of teachers and students and the preparedness in terms of resources, systems and technology. While changes and reforms being made in the teaching-learning process, efforts are also being made to facilitate learning through designing and implementing suitable assessments.

One such method that institutions and educators are exploring is open-book assessment in the conviction that it will be stress-free and serve the purpose of testing critical thinking and application. The All India Council for Technical Education (AICTE), in its Examination Reform Policy of November 2018, advocated for the adoption of open-book exams in higher education institutions (HEIs) to test higher-order thinking skills such as application, analysis, and evaluation, as indicated in Bloom's Taxonomy, and eventually help students improve their creative ability and innovative skills while learning.

Context and relevance

Open-book exam is a well-proven procedure that evokes learning most constructively, and allows students to use multiple resources to achieve the desired level of proficiency at a reduced level of stress and anxiety. This inculcates ownership of learning and eventually promotes students' thinking rather than memorising. Furthermore, it provides increased opportunities for self-awareness and self-evaluation, and prepares students for life by facilitating practice opportunities where all cognitive domains of Bloom's Taxonomy can be integrated into problem-solving similar to those encountered in real situations.

But it is essential that both teachers and students understand what an open-book assessment entails. Here, the questions are framed so that the students cannot simply refer to their study material and pick out answers. Instead, they are required to process the available information, interpret and draw inferences, and write their responses based on their understanding of the concepts. This cannot be achieved on the spot but requires thorough preparation over time. Students have to work hard and prepare in such a way that they not only develop a thorough understanding of the concepts but can also critically analyse it and apply the learning in a different context.

Challenges

Orienting, training, and preparing teachers for the conduct of open-book examinations are a challenge for HEIs. Designing the question paper can be difficult and time consuming as questions need to assess the skills of inferring ideas, application of knowledge, and comprehension and critical thinking skills. This requires a mindset change to make the procedure effective.

Teachers should know that an open-book examination works better when answers cannot be readily extracted from materials, text, and reference books during the test. Students should not have a false perception that such a test will be easy and that they will be able to find the answers in textbooks without any preparation. Another presumed risk is that the students will stop studying and copy from the open books provided at the hall.

At a macro level, the students' demographic characteristics need to be considered from an empathetic angle. Given the socio-economic disparity that exists between rural and urban students, access to the Internet, reference books, and other relevant learning materials is not equal. This can create an inequitable situation, as some books are very expensive and beyond the reach of some. An open-book exam also requires a spacious hall to provide enough space to store all the material and, in rare circumstances, to consult with the instructor during the exam.

Conducting such an exam requires considerable thought, beginning from curriculum design and development, its suitability to the nature and type of courses, re-arrangement of examination halls and seating arrangements during examinations. These challenges can be mitigated provided administrators, teachers and students understand the importance of this procedure and help one another by unlearning certain biases in order to reap the real harvest of learning, which is developing higher order thinking skills rather than knowledge recall.

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Route for success

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

OFF THE EDGE
Nandini Raman

I have completed B.Sc. Physics. What are my career options after M.Sc. Physics, apart from teaching? Basila

Dear Basila,
Does research interest you? You could join positions in government laboratories, scientific research institutions, or private firms focused on areas like Material Science, Nanotechnology, Astrophysics, Quantum Mechanics, or Renewable Energy. Another option could be a career in R&D, development and design in Applied Physics fields such as Electronics, Telecommunications, Photonics, or Semiconductor industries. What about Data Science or analytics roles or in technology-based industries, including software development, aerospace, robotics, or telecommunications? A career in medical physics that involves applying physics principles to healthcare. Before shortlisting a specific career path, consider gaining relevant experience through internships, research projects, or professional networking.

I am in the final year of BA LLB. I don't want to do a Master's in Law. Should I consider an MBA? What course should I do for a career in journalism? I am very confused as I don't know if litigation is my place? Fiza

Dear Fiza,
Reflect on your interests, strengths, and long-term aspirations to determine which path aligns with your goals. Explore internships, part-time roles, or shadowing experiences in both law firms and media to gain insights into these professions. Speak with professionals in the fields that you are considering and gather more information about the work culture and opportunities. A career profiling will help you understand your skills and preferences. An MBA after a BA LLB is beneficial if you wish to transition to corporate roles, management, or business-related careers. Specialisations like Business Administration, Corporate Law, Finance, Marketing, Human Resources, or Operations Management, will open up opportunities in corporate law, compliance, consulting, or managerial roles. For a course in journalism, apply to reputed institutions that provide hands-on training, internships, and industry exposure.

I've completed my Master's in Environmental Sciences. Apart from research, what are my options? Also for further studies in India and abroad? Basil

Dear Basil,
You could consider being an environmental consultant, an environmental policy analyst, an environmental educator or an outreach coordinator, an environmental management and planning consultant, a climate change analyst, a mitigation specialist, a waste management specialist, or an environmental journalist. For further studies, research universities known for their environmental science programmes are Stanford University and University of California-Berkeley in the U.S., ETH Zurich in Switzerland, and the University of Cambridge in the U.K.
In India, look at the Indian Institutes of Technology (IITs), Indian Institutes of Science Education and Research (IISERs), and TERI School of Advanced Studies. Assess and understand your interests, preferred specialisation, and long-term goals before you sign up for the next course.

I would like to know the career prospects for designing. What courses can I do after Class 10? Celine

Dear Celine,
There are several courses to build a foundation in design for various career options. Talk to professionals in the field and gain insights into the different paths available. After Class 10, enrol in diploma courses in Fashion Design, Interior Design, Graphic Design, and Product Design. See what you enjoy and what you want to pursue. Platforms like Coursera, Udemy, or Skillshare offer a range of design-related course across web design, UX/UI Design, Animation, and so on. Consider certification courses in software such as Adobe Photoshop, Illustrator, and AutoCAD to enhance your technical skills. Some institutes also offer foundation courses that help you build fundamental skills in drawing, sketching, colour theory, and design principles. After Class 12, you can apply to National Institute of Design (NID), National Institute of Fashion Technology (NIFT), or other design schools.

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

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

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Nurture their spirits

Modern educational frameworks must incorporate innovative strategies and resources to help students navigate an increasingly challenging world

Tristha Ramamurthy

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The world today is characterised by multiple challenges such as climate change, political tension, the after-effects of COVID-19, not to speak of the omnipresent influence of digital technology and social media. All this has led to more exposure to global events and sometimes to information overload. This has led to the discourse around student mental health becoming a pressing concern. Increasingly, there is an urgent need to cultivate deeper connections, foster understanding and instil a sense of purpose.

The once-distinct boundaries between academic, social, and personal spheres have blurred, necessitating a recalibrated perspective on students' lives. Modern educational frameworks must incorporate innovative strategies and resources to help students navigate this landscape and provide the necessary support to help them process the vast influx of information.

Affirmation corner
One innovative approach that educational institutions can adopt is an "affirmation corner." This is a physical sanctuary within the institution that provides students with a dedicated area to boost self-esteem by openly expressing affirmations. It fosters a sense of community and serves as safe havens for students to remind themselves of their worth and potential. In addition to spoken affirmations, it can create an an environment conducive to building self-confidence and promoting emotional healing. Classroom affirmations also play a crucial role in creating a positive and supportive environment to encourage positive behaviours, thoughts, actions, and work.

Mindfulness practices
Mindful education seeks to balance academic rigour and emotional well-being. Students need simple practices that can help them stay centred, attentive, and engaged through the day. A gentle bell during a lecture or class can be a cue to pause and engage in a brief one-minute mindfulness practice. Such practices can be used after physical activity or during class to help students stay focused, calm, and engaged.
As global interest in mindfulness grows, educators are exploring practices such as guided mindfulness sessions, body scanning, and even Tai Chi exercises, all tailored to fit seamlessly into the school day and provide moments of tranquillity during the busy academic schedule. Establishing dedicated mindfulness spaces, similar to libraries or laboratories, may soon become standard practice.

Gratitude Journalling
Another way to help students deal with stress is gratitude journalling. As they record their reflections and introspections regardless of age or academic level, the practice of documenting things they are thankful for cultivates a positive mindset and enables them to focus on positive aspects and develop resilience during challenging times. Over time, these journals become personal testaments to their growth. Consistent gratitude journalling also contributes to developing emotional intelligence, making students more attuned to their feelings and those of their peers. Notably, gratitude journalling offers prompts, reminders, and even community features for shared experiences.
Gratitude reflections, where a few students are called upon to share what they are grateful for, serve as real-world manifestations of affirmations and contribute to a more positive and emotionally healthy educational environment.

Other aspects
Apart from these, educational institutions can also explore other avenues to promote student well-being. Group discussions where students share their stories and offer peer support can be immensely beneficial. Bringing in professionals to conduct workshops on stress management and integrating art and music therapy sessions are also useful strategies. Furthermore, technological advances offer innovative solutions such as biofeedback apps to monitor and reduce stress, VR environments to relax and online interactions with mental health professionals in real-time. This diverse toolkit can ensure that institutions can address every student's unique needs and foster a genuinely inclusive learning environment. Given the popularity of gamification, incorporating game-based approaches to teach mindfulness, empathy, and emotional regulation is also possible.
Going forward we must recognise that nurturing the human spirit is as crucial as the pursuit of knowledge. Therefore, we must use a mix of traditional and modern strategies to equip the youth with knowledge and the emotional intelligence to use it wisely and compassionately so that we can build an empathetic and impactful society.

The writer is the Founder of Ekya Schools and Provost, CMR University

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CAREER CUES
Richa Dwivedi Saklani

Tests are to students what tournaments are to sports people. Your performance in these tests become your credentials when you apply to college. If you're eyeing a college abroad for your undergraduate studies, you might need to tackle a few standardised tests along the way.

SAT/ACT
These two crucial standardised tests for U.S. college admissions are offered in fall (August), winter (December), spring (March), and summer (May and June) to assess readiness for higher education. The best time to take these depends on individual readiness and application timelines. Taking it early allows for retakes, but some may prefer to prepare and give it one strong shot.

The SAT focuses on reasoning, while the ACT emphasises curriculum-based knowledge. SAT scores range from 400 to 1600, with separate scores for reading/writing (out of 800) and Math (out of 800). The ACT includes English, Math, Reading, and Science sections, with scores ranging from one to 36 per section and a composite score calculated from the four. Both hold equal weightage so students can choose according to their strengths.
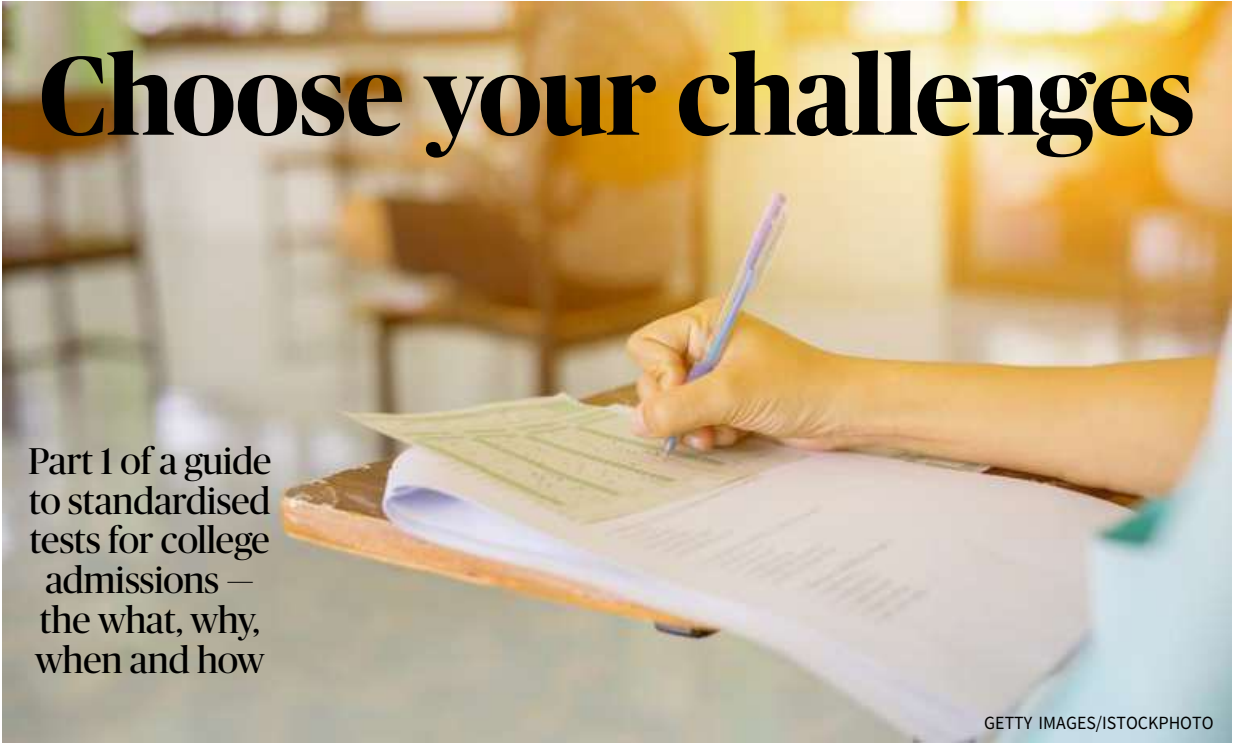
During the pandemic, many colleges made these optional to promote fairness in admissions. However, this year, many universities are making SAT/ACT compulsory again. Brown, MIT, Dartmouth, Georgetown, Yale, and Purdue will reinstate test requirements. The University of California colleges (UCs) remain test-blind. More colleges may declare such a change in the months to come.

Indian private colleges like Ashoka, FLAME, and Plaksha also consider these tests for undergraduate admissions.

English proficiency tests
Most Indian students may be required to take language proficiency tests such as the IELTS, TOEFL, and DuoLingo, to demonstrate their reading, writing, speaking, and listening skills to universities

Choose your challenges

Part 1 of a guide to standardised tests for college admissions — the what, why, when and how

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abroad, including the U.K., U.S., Canada, and Singapore. CBSE and ICSE students with scores of 85% and above in English language or IBDP students with scores of five and above may be exempt from these tests. However, it is always good to have a score handy for ease of application and for cisa applications.

TSA/TST
The Thinking Skills Assessment (TSA) is an important test for Social Sciences courses at Oxford such as Experimental Psychology, Human Sciences, Philosophy, Politics and Economics, Psychology, Philosophy and Linguistics, Economics and Management or History and Economics. UCL, too, uses a version of this for some Social Sciences courses. TSA/ TST (Thinking Skills Test) evaluate critical thinking and problem-solving

through a 90-minute multiple-choice section and a 30-minute essay section. Typically taken in the final year of high school, the TSA is based on the Classes 9-10 syllabus with tricky questions designed to demonstrate clear thinking and logic, rather than knowledge.

MAT/TMUA
The Mathematics Admissions Test and Test of Mathematics for University Ad-

mission are subject specific for admissions to Mathematics, Computer Science and Economics degrees at the University of Cambridge and Oxford. Typically taken in late October or early November, it evaluates mathematical aptitude beyond the standard curriculum with two three-hour papers, including multiple-choice and essay sections.

LNAT

The National Admissions Test for Law is essential for law degrees at leading U.K. universities like Oxbridge, LSE, Durham, and Kings. This two-hour computer-based test comprises MCQs and essay sections that evaluate comprehension, verbal reasoning, and argumentative skills. While only one attempt is allowed in the cycle you are applying in i.e. after September of the application year, students should attempt it in the previous cycle i.e. till July, to assess their level and prepare accordingly.

UCAT/BMAT
The University Clinical Aptitude Test and Biomedical Admissions Test are vital for admission into undergraduate medicine and related courses in the U.K. The UCAT evaluates cognitive abilities through multiple-choice questions, while the BMAT assesses scientific knowledge, critical thinking, and problem-solving skills. Typically taken in the final year of secondary school or during a gap year, the UCAT is administered between July and October, while the BMAT is offered twice a year, usually in September and November. Many universities are transitioning from BMAT to UCAT, with the final deci-

sion pending.

AP

Advanced Placement (AP) tests help showcase academic rigour in college applications, particularly for Indian students from CBSE, ISC and State Boards, as they assess college-level proficiency across subjects from Math to Humanities. Administered annually in May, registration is through authorised high schools listed on the College Board website. AP exams are tough. Ideally a student should work with a tutor since one has to score above three on a five-point scale. High scores may also bring credits that allow you to reduce your load during college or reduce the time you take to complete your degree.

Thorough preparation and understanding of each test's format and requirements are key. Choose your challenges carefully and plan your calendar starting from Class 11 so that you approach them with confidence.

With inputs from Anjana Anand

The writer is Founder and CEO, Inomi Learning, a Gurugram-based career and college guidance firm. info@inomi.in

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On the basis of skills

With 1.5 million engineering graduates emerging every year, there is an urgent need to upgrade the courses and make them more relevant for today's world.

PIXABAY

Bhavik Rathod

Over the last decade, there have been frequent reports of fresh engineers unable to find jobs. Only one in 10 engineering graduates in India is likely to land a job at the end of the final year. With 1.5 million new engineering graduates entering the market each year, this is a real problem.

If getting a job in the tech sector, after spending four years on a B.Tech. or B.E. course, is hard, it is natural to ask why do these courses?

It is also important to understand that the Indian IT sector grew at a time when cost-arbitrage was the primary market strategy.

Today, this has weakened to a point where even on-site workforce is being scaled down. Simultaneously, the face value of engineering degrees dropped and the lack of marketing skills became apparent. There was a gaping hole between what academia taught and what

the market demanded.

Changes
To plug this, new institutions (what we now call ed-tech) began to emerge; built mostly by industry professionals. They created market-relevant content and hired experienced professionals to teach (both part- and full-time). This also opened new avenues for those who wished to get into the sector without an engineering degree. Companies like Google are willing to hire professionals with relevant skills even if they don't have a tech degree. Today graduates from top engineering colleges are keener to join product-based companies like Meta, Amazon, Apple, Netflix, and Google (MAANG) because not only do they pay well, but also offer challenging and large-scale problems. Traditional engineering colleges are unable to skill their students to meet this specific demand: work for product companies.

The engineering-based higher education spaces

are also seeing other changes. Traditional heavyweight colleges insist on hiring those with a doctorate as professors leading to a situation where teachers do not have any real-world experience. This partly explains the lack of market-relevant skills in their graduates. However, the introduction of 'Professor of Practice' shows that even these colleges have started seeing the value of having experienced professionals from the industry as part of the faculty.

But this change has just begun. India still produces 1.5 million engineers every year. Some large companies continue to hire B.Tech./B.E. graduates and train them for six months or so before deploying them. But this model cannot prevail for too long. Instead of a traditional four-year engineering programme, what young engineers need are courses more immersed in the industry and relevant in the fast-changing world of technology.

The writer is Senior Vice-President, Scaler, and head of Scaler School of Technology.

Storytelling through art

The role of an art curator straddles tradition and innovation and offers a dynamic and enriching career path to students in the field.

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Sanjay Gupta

Today, the role of an art curator has evolved beyond traditional boundaries, becoming a pivotal force that shapes cultural narratives while safeguarding the legacy of artistic expression. Art curators are essentially storytellers who weave narratives through visual mediums. Their responsibilities involve blending artistic vision with scholarly insights to curate exhibitions that resonate with audiences. Apart from acquiring, preserving, and interpreting artworks, curators meticulously select pieces that convey historical, cultural, or thematic significance and arrange them to craft compelling narratives that educate a diverse range of people.

The history of art curation in India is deeply rooted in its cultural heritage

and artistic traditions. Initially centred around royal collections and courtly patronage, the practice of curating art has evolved over time. Post-independence, institutions like the National Gallery of Modern Art (NGMA) played a significant role in systematically curating Indian art. In recent years, Indian art curators have expanded their horizons, embracing diverse art forms, regional expressions, and global collaborations. Prominent figures such as Ranjit Hoskote, Nancy Adajania, Latika Gupta, and Shukla Sawant have highlighted the role of curators in preserving cultural legacies and facilitating dialogues between tradition and innovation.

Roles
Completing a specialised Master's programme equips individuals for roles such as art curators,

museum professionals, exhibition designers, cultural managers, art consultants, gallery managers, arts administrators, art writers, researchers, and freelance curators. Curators select and interpret artworks for exhibitions, while museum professionals ensure the management and preservation of collections. Exhibition designers create engaging spaces, cultural managers organise events, and art consultants offer expertise in acquisitions. Gallery managers oversee gallery operations, arts administrators handle cultural institutions, and art writers provide critical insights. Researchers contribute to academic discourse, and freelance curators enjoy autonomy in curating diverse projects. These roles collectively preserve heritage, connect art with audiences, and shape contemporary art dialogues.

These roles facilitate dialogues between tradition and innovation, and connect local and global artistic narratives. Apart from the specialised programmes, those in this field must also have knowledge of history and skills in exhibition management. with skills in art history, exhibition management, and critical thinking significantly contribute to preserving cultural legacies. Salaries for art curators in India can vary based on factors such as experience, location, and the type of institution.

Prospects
Globalisation, technological advances and a burgeoning appreciation for di-

verse art forms have led to opportunities for specialisation in various genres, periods, or cultural movements. International collaborations, exhibitions, and exchanges offer exposure to a range of perspectives. while technology opens new avenues enables exploration into digital curation, virtual exhibitions, and innovative audience engagement techniques.

Straddling both tradition and innovation, a career in the field of art not only involves preserving heritage but also contributing to evolving contemporary artistic expression.

The writer is Vice Chancellor, World University of Design.

From insight to impact

As India progresses in the global tech industry, the demand for skilled user researchers is set to grow

FREEPIK

Shipra Bhutada

User research is a foundational element in strategic decision-making, placing users at the forefront of business and product strategy. Rooted in Human-Centred Design (HCD), it involves a comprehensive exploration of real-world dynamics, including users, products, and competition. This includes the meticulous curation of real-user stories and market data, which is then translated into actionable insights. The process aims to identify target user segments, product-market fit that addresses core user needs, uncover unmet challenges, identify untapped markets and understand user behaviours through methods that involves immersion, observation, and feedback.

A distinct aspect of user research involves delving

into user engagement with a product or service, aiming to reconcile disparities between perceived, stated, and actual user needs. This holistic approach ensures a comprehensive understanding of user requirements, guiding the development of user-centric design from the initial stage of ideation to launch. User researchers strive to connect expectations with deliverables, shaping products or services that not only meet user standards but also add significant business value.

User research vs. UX research
The terms 'user research' and 'UX research' are often used interchangeably but have certain nuanced differences. User research has a broader scope, influencing decisions before product inception, guiding innovation opportunities, and inform-

ing business, sales and marketing strategies. In contrast, UX research is a subset focused on studying user interactions with a product or service, dissecting responses before and after product use.

User research bridges the gap between stakeholders (business leaders, sales and marketing heads, product owners and designers) and customers. By conceptualising research inquiries and delving deep into the user narratives, researchers help teams empathise with the user by communicating useful insights. It also plays a pivotal role in shaping the success of a product or service. The results help marketers identify target audiences and create relevant new products, direct designers and developers in improving existing products, thus significantly impacting the overall customer experience.

Educational requirement
Becoming a user researcher does not require a specific educational background. Individuals come from diverse academic paths such as Design, Psychology, Human-Computer Interaction, Engineering, Literature, and more. The central tenet is empathy, understanding user perspectives, and effective communication. Proficiency in qualitative and quantitative research methods, coupled with a deep understanding of human behaviour, is also important. Continuous skill enhancement is encouraged through short courses, boot camps, and online resources.

Career avenues
User researchers find opportunities across sectors, from technology companies and start-ups to digital marketing agencies, telecommunications, banking, and retail. Companies like Google, Meta, Microsoft, Amazon, and Apple maintain substantial UX research teams. Freelancing roles offer avenues for diverse projects. User research consultancies and smaller companies provide opportunities for impactful contributions with-
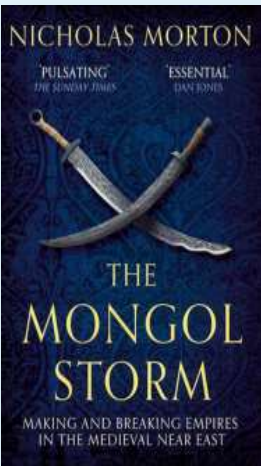
in the field.

In India, user research is evolving into a crucial instrument for strategic, user-centred innovation. The focus has shifted from fixing poorly designed products to envisioning future possibilities. Executives acknowledge that user research enhances company efficiency and positively impacts product and service quality. There is a growing demand for skilled user researchers in India, not only in large corporations but also in start-ups. Various industries such as technology, e-commerce, entertainment, recruitment, design, paint manufacturing, computer hardware, and social media have begun prioritising user research.

User research is not just a component of product development; it has become a strategic imperative for organisations thriving in the user-centric landscape. As India progresses in the global tech industry, the demand for skilled user researchers is set to grow, making it a compelling field for individuals passionate about understanding and meeting user needs in the evolving digital landscape.

The writer is Founder and Director (User Research), User Connect Consultancy.

ON THE SHELF

NICHOLAS MORTON

THE MONGOL STORM

MAKING AND BREAKING EMPIRES IN THE MEDIEVAL NEAR EAST

■ **The Mongol Storm: Making and breaking empires in the medieval Near East**

How did the Mongol invasions of the Near East reshaped the balance of world power in the Middle Ages?
For centuries, the Crusades have been central to the story of the medieval Near East, but these religious wars are only part of the region's complex history. During the same era, the Near East was utterly remade by another series of wars: the Mongol invasions.
In a single generation, the Mongols conquered vast swaths of the Near East and upended the region's geopolitics.
Amid the chaos of the Mongol onslaught, long-standing powers such as the Byzantines, the

Seljuk Turks, and the crusaders struggled to survive, while new players such as the Ottomans arose to fight back.
The Mongol conquests forever transformed the region, while forging closer ties among societies spread across Eurasia.
This is the definitive history of the Mongol assault on the Near East and its enduring global consequences.
Nicholas Morton is a senior lecturer at Nottingham Trent University whose most recent book *The Crusader States and their Neighbours* won the Verbruggen Prize 2022.
Author: Nicholas Morton
Publisher: Hachette
Price: ₹1099