DR SAURABH SINGHAL,
CHANCELLOR

SIKKIM GLOBAL TECHNICAL UNIVERSITY

DRIVING INNOVATION, RESEARCH, AND GLOBAL COMPETENCE IN THE NORTH EAST

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Course Duration: 3 years
Eligibility : 10+2 in any discipline

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Course Duration: 3 years
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Editorial

India's Hidden Hubs of Higher Learning

The northeastern region of India, often celebrated for its breathtaking landscapes and rich cultural tapestry, is quietly transforming into a hub of educational brilliance. Colleges across Assam, Meghalaya, Nagaland, Manipur, Tripura, Arunachal Pradesh, Mizoram, and Sikkim are redefining the contours of higher education, blending rigorous academics with holistic development to nurture leaders, innovators, and change-makers of tomorrow.

These institutions are no longer just centers of learning; they are incubators of talent, innovation, and cross-cultural exchange. Engineering, medical sciences, liberal arts, business management, and emerging tech programs are being offered with a focus on experiential learning, research-driven curricula, and industry readiness. Several colleges have established collaborations with national and international universities, allowing students to gain exposure to global best practices while remaining rooted in local contexts.

What sets northeastern colleges apart is their seamless integration of tradition with modernity. Students are encouraged to engage in community-driven projects, entrepreneurial ventures, and sustainability initiatives, fostering a sense of responsibility alongside academic excellence. Digital adoption and skill-based programs are bridging geographical challenges; ensuring students compete effectively on a national and global stage.

As these institutions continue to rise in prominence, they are attracting talent from across India and beyond, spotlighting the Northeast as a region of untapped potential and intellectual vigor. Today, colleges in the Northeast are not just educating students— they are shaping the future, preserving cultural heritage, and redefining what it means to pursue higher learning in India's most scenic and dynamic landscapes.

After scrutinizing some of the top colleges in the **Northeast in India, Higher Education Review** has selected the top performers who have showcased exceptional academic expertise. With the intent to transform the lives of students, these colleges have exhibited the acumen to adapt to the evolution of the educational field and help students emerge victorious.

We look forward to receiving your feedback and suggestions.

Janifha Evangeline
Editor
editor@thehighereducationreview.com

CONTENTS

DR SAURABH SINGHAL,
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SIKKIM GLOBAL TECHNICAL UNIVERSITY

DRIVING INNOVATION, RESEARCH, AND GLOBAL COMPETENCE IN THE NORTH EAST

THE FUTURE OF RESEARCH AND INNOVATION IN INDIAN UNIVERSITIES

By Grena, Corresspondent, Higher Education Review

Indian universities are developing global knowledge that solves problems at both local and international levels. Indian universities work towards creating a complementary, collaborative, and sustainable research environment where academic efforts are grown toward fulfilling the needs of the real world. Indian universities have the potential to exploit their intellectual capital and comparative advantage to play a proactive role in building a knowledge society equipped to meet the challenges of today's world. With an appropriate strategy, Indian universities can build a future where academics become powerfully integrated with society's development and innovation.

Industry-Academia Collaborations

The future of research and innovation in Indian universities depends on building more industry-academia collaborations. Research has disconnected with industrialized problems that are relevant and practical. As both industries and areas of research become increasingly complex, universities are required to unite with businesses for research output to align better with the requirements of markets. Alternative formats and models include joint research, sponsored research programs, on-site internships, and incubation centers for startups. Such partnerships provide universities with funding and resources that enhance the quality of research while also providing valuable insights from industry to benefit students and faculty members in their pursuit of commercially relevant research. Knowledge exchange from industry to academia brings more

According to AISHE, the Indian higher education sector is expected to achieve a compound annual growth rate (CAGR) of 8.46% from 2024 to 2032. Low expenditure on R&D and 0.65% of the GDP of the country are the primary reasons behind the low research output in India. The future of Indian universities engaged in research and innovation is dependent on the integration of advanced technologies, cooperation between industry and academia, and the development of infrastructure facilities relevant to complex research innovations. This will lead to the changes that need to be incorporated into curriculums, which will focus on practical and research-oriented education, providing the necessity of integrating knowledge into its real-life application.

applications that address problems such as climate change, digital transformation, and healthcare innovation. Strengthening such collaborations strengthens the relevance and impact of Indian universities in the academic and industrial domains.

Veezhinathan Kamakoti, Director, IIT Madras said, "Now, there is a need to accelerate innovation and research. For that, we need a lot of partnerships. These partnerships can be among higher education institutions and between industry and academia."

Technology Integration in Research

Integration of Artificial intelligence, machine learning, big-data analytics, and internet technologies have enhanced the methods employed by universities in more accurate ways to solve such highly complex issues. The adoption of such technologies by Indian universities ensures outcomes that are more focused, and effective. For example, AI and machine learning can switch to medical research as they lead doctors to diagnose and provide a specific treatment plan faster. IoT ranges from environmental monitoring to urban development, providing researchers with real-time data. Such integration will increase the quality and relevant of research in Indian universities. Digital platforms are being used more frequently than before to collaborate among research communities. When Indian universities embrace these tools in their research processes, they are well-equipped to strengthen their collaborative networks and play a major role in solving the world's global challenges. Such investments and adoption of innovative technological approaches make Indian universities competitive globally in research and innovation.

Navakanta Bhat, Dean, Division of Interdisciplinary Sciences, IISc Bangalore said, "Over the last several years, IISc has established leadership in the areas of Semiconductor technology, Nanomaterials and Biological Sciences and will soon establish a Postgraduate Medical School to foster and amplify interdisciplinary collaborations between Engineering, Basic Sciences and Medicine. This MoU offers a unique opportunity to leverage the mutual strengths of the two universities to create a big impact on these critical technologies."

Strengthening Research Infrastructure

The infrastructure for research and innovation includes the modernization of laboratories, the facility for high-performance computing, the development of advanced data storage systems, and better access to global research networks. A well-equipped research infrastructure empowers students and faculty to carry out world-class research and use effective tools for innovation. Advanced research facilities can provide an environment for researchers to explore new ideas, experiment with advanced technologies, and collaborate with international peers. Research infrastructure that deals with high-performance computing facilities and cloud infrastructure plays a major role in data processing and analysis of very large data sets. Such large data patterns are highly seen in other research areas like genomics, climate science, and urban planning. Investing in research infrastructure makes universities more capable of carrying out their research and also attracts top researchers and scholars to share their thoughts around the world. Financial support from the government combined with investments from the private sector enhances the research infrastructures at Indian universities to undertake globally recognized research and innovation. Universities can take an opportunity from these international collaborations and grants to get access to sophisticated technologies and research resources.

VijayRaghavan, Former Principal Scientific Adviser, Government of India said, "Can we have a situation across science and technology where there are major international centres, where all countries come together in an open and collaborative manner to address the major challenges."

Research-Based Curriculum in Education

A research-based curriculum is crucial to establish a culture of innovation in Indian universities. The conventional curriculum provides significant emphasis on theoretical knowledge and does not equip the student for the pressures of conducting research and development work. A research-driven curriculum enhances problem-solving, critical thinking, and practical experience in research. Allowing research at every level of education in the country improves students' knowledge of all subjects and provides them with ways of discovering new knowledge. Programs with projects and laboratory work along with internships expose the student to practical experience within the same field, which helps students to understand current developments in the field. Additionally, curriculums that are based on research get the students into interdisciplinary projects with a global viewpoint and enable them to be innovative problem solvers and leaders. In this way, it brings the university in coordination with industry needs as students would acquire experiences and skills highly connected with industry.

Abhay Karandikar, Secretary, The Department of Science and Technology said, "PAIR has been initiated to boost the research capability of those universities where research is at a nascent stage but which have the potential to perform well, in a mentorship mode by pairing them with well-established top-tier institutions in a hub and spoke framework and providing substantial funding." HE**R**

HOW EARLY CRITICAL THINKING
SHAPES STUDENT SUCCESS

Matthew Jaskol, Founder & Program Director, Pioneer Academics

Matthew Jaskol, Founder and Program Director, Pioneer Academics in an interaction with Higher Education Review shared his views on the importance of nurturing critical thinking skills in early childhood rather than waiting until secondary or higher education, how can teachers effectively integrate critical thinking exercises into traditional subjects like math, science, and language without overloading the curriculum and more.

Matthew Jaskol is the founder of Pioneer Academics, leading global educational innovation that empowers high-school students through accredited research-based and problem solving learning opportunities. Matthew Jaskol is the founder of Pioneer Academics, leading global educational innovation that empowers high-school students through accredited research-based and problem solving learning opportunities.

Why is it essential to begin nurturing critical thinking skills in early childhood rather than waiting until secondary or higher education?

Critical thinking skills are always essential in education, and this is the era with the tech development that calls for these skills more than ever before. From the talent development perspective, critical thinking skills work similarly like knowledge-based skills, art skills or sports skills, the earlier a student starts understanding it, the longer he or she will be able to practice it, and therefore stronger critical thinker they will become. The Government of Ireland Postgraduate Scholarship funded the research about critical thinking teaching in early childhood and found empirical evidence to support the benefit of teaching critical-thinking early. It shows that early interventions in thinking-skills can positively affect dispositions like language use, independent thinking, and cooperation.

In India especially, where children often enter highly structured academic environments at a young age, critical thinking can act as a counterbalance to the pressures of performance and memorization. It helps young learners build confidence in their own reasoning and problem-solving abilities, which is essential not just for academic success but for long-term adaptability. And in a world that is rapidly changing, where technology evolves faster than curriculum, this adaptability becomes one of the most important life skills a child can develop. Ultimately, early critical thinking nurtures a generation of learners who see themselves not as passive recipients of information, but as thoughtful, independent participants in shaping their own future.

How can teachers effectively integrate critical thinking exercises into traditional subjects like math, science, and language without overloading the curriculum?

Integrating critical thinking exercises into curriculum that focus on building knowledge requires an overhaul of the teaching system, ranging from what critical thinking skills are set as the outcome, to how they are taught, and to how to assess the learning outcome.

Different subjects require different approaches:

Math and science itself are strictly a logical process. Error analysis in these subjects is an effective way to reinforce that critical thinking. In mathematics, for example, asking students why a method works or encouraging them to arrive at multiple solutions cultivates deeper conceptual understanding. In science, even simple acts like inviting students to predict outcomes before an experiment or challenge a hypothesis, help them internalize the scientific method rather than memorize it.

Language and humanity subject teachers can increase critical thinking teaching by shifting focus on answers to explaining hypotheses and evidence in the materials. In

literature classes, exploring a character's choices or debating alternative endings naturally strengthens analytical and interpretive thinking.

These moments don't demand extra time; they simply shift the focus from answer-getting to meaning-making. And this is especially important in India, where teachers often manage large classrooms. Small reframings, consistently done, create a lasting impact. When teachers build these micro-moments into their routine, critical thinking becomes not an additional task, but the lens through which every subject is understood.

What role do parents and home environments play in shaping a child's ability to question, analyze, and think independently?

I would say either parents help a lot or not so much. It takes parents who are great critical thinkers and who are conscious about nurturing critical thinking into daily conversations. In most cases, it is really hard for critical thinking skills to be developed at home. Besides that critical thinking is a sophisticated skill set that requires systemic teaching and practicing.

There are still tips that parents can encourage critical thinking in early childhood. In a way they can create a child's first learning environment. When parents in India encourage open conversations, they signal that thinking is valued. Even simple habits like asking children what they think about a story, or involving them in small household decisions, build analytical confidence. When homes become safe spaces for dialogue, children learn that independent thought is not a challenge to authority, but a pathway to growth.

How can schools strike a balance between academic achievement and the development of reasoning, creativity, and problem-solving abilities?

Schools do not need to choose between academic excellence and the development of reasoning or creativity - these strengths reinforce each other. When students learn to question, analyse, and think independently, they don't just memorize more; they understand more, and that deeper grasp translates into stronger academic outcomes. The real shift comes from moving away from content overload toward cognitively rich learning that emphasizes analysis, justification, and application.

This is especially important in high-pressure systems like India, where success is often reduced to percentages. Inquiry-based tasks - designing experiments, reinterpreting events, breaking down complex problems step by step - make students more engaged, confident, and resilient.

In a world increasingly driven by AI and automation, how does early critical thinking education prepare students for future job markets and civic life?

In a world increasingly shaped by AI and automation, early critical thinking education is one of the strongest predictors of future success - both in the job market and as an engaged citizen. When students learn critical thinking from a young age, they develop the ability to evaluate information instead of passively absorbing it. This skill becomes essential as AI-generated content floods daily life and misinformation spreads quickly. Students who can question sources, weigh evidence, and detect assumptions are far better equipped to make informed personal and civic decisions.

Early critical thinking also trains students to understand complex systems - economic, technological, environmental - and to identify problems or opportunities within them. This systems-level awareness is fundamental to navigating interconnected challenges in society, from climate change to algorithmic bias.

In the workplace, these early foundations translate into highly valued competencies: creative problem-solving, leadership, communication, and adaptability. As automation handles routine tasks, human advantage shifts to skills machines cannot replicate easily - contextual judgment, ethical reasoning, and the ability to collaborate and innovate across disciplines.

How can assessments evolve to measure critical thinking effectively, rather than focusing solely on rote memorization or standardized testing?

Assessments can evolve to measure critical thinking more effectively by shifting from product-only evaluation to process-based assessment. Instead of rewarding students solely for memorizing information or selecting the right answer on a standardized test, process-based assessments examine how a student thinks: how they gather evidence, analyze assumptions, revise ideas, and build arguments over time. HER

COLLEGES IN THE NORTH EAST
2025

SIKKIM GLOBAL
TECHNICAL UNIVERSITY

DRIVING INNOVATION, RESEARCH, AND GLOBAL COMPETENCE IN THE NORTH EAST

By Priya S

The North Eastern region of India is known for its vibrant culture, rich biodiversity, and exceptional human potential. Over the years, the region has witnessed growing enthusiasm among its youth toward higher education. Yet, despite this strong academic inclination, limited access to advanced technical education, research facilities, and global industry exposure has often restricted local talent from reaching its full potential. Recognizing the need for a strong institutional foundation that connects education with employability, a new wave of universities has begun reshaping the academic landscape of the North East, one of the most notable being Sikkim Global Technical University (SGTU).

Sikkim Global Technical University was established with a vision to bridge the gap between conventional academics and global employability skills. The founders realized that while the North East holds immense intellectual promise, opportunities for advanced technical learning and applied research remained scarce. This led to the creation of a globally benchmarked institution in Sikkim, one that integrates technical knowledge, innovation ecosystems, and industry collaborations to nurture future-ready professionals.

Guided by the visionary leadership of Hon'ble Chief Minister of Sikkim, Prem Singh Tamang, SGTU aligns its mission with the state's goal of transforming Sikkim into a leading educational hub for the North-Eastern states. The University emphasizes quality higher education, skill development, and research excellence through innovative programs, industry linkages, and international collaborations.

With multidisciplinary schools spanning Engineering, Agriculture, Computer Science, Commerce & Management, Hotel Management, Allied Health Sciences, and Sciences, SGTU promotes an outcome-based learning model in line with the National Education Policy (NEP) 2020. Advanced laboratories, innovation hubs, and incubation centres support research-driven learning and entrepreneurial growth. Collaborations with leading industries, research organizations, and skill universities ensure students gain practical exposure through internships and mentorship.

SGTU is also emerging as a hub for applied research in areas such as sustainable agriculture, biotechnology, renewable energy, and healthcare innovation. Recognized with the Indian Glory Award 2024 and the International Excellence Award for Best Emerging University in the North East,

"

Sikkim Global Technical University envisions a transformative journey that extends beyond conventional education to create a lasting impact on the North East and the global academic landscape

DR SAURABH SINGHAL,
CHANCELLOR

SGTU continues to strengthen its global presence. Its collaboration with the Construction Industry Development Council (CIDC) further reinforces its commitment to creating value-added employment and bridging the industry-academia divide, driving holistic growth for the North East and beyond.

Building Future-Ready Professionals through Skill-Integrated Education

SGTU distinguishes itself through its skill-integrated, industry-aligned academic design. Every program blends strong theoretical foundations with hands-on learning, ensuring students gain both knowledge and employability skills. The University emphasizes experiential learning through internships, live projects, and certifications in emerging technologies.

For instance, Computer Science students work on real-world projects in artificial intelligence, machine learning, and data analytics under industry mentorship. Agriculture programs incorporate precision farming, agri-tech innovations, and sustainable practices, while Management courses emphasize entrepreneurship, financial analytics, and corporate simulations. Students in Health Sciences and Pharmacy gain extensive clinical and practical training through hospital tie-ups, industry collaborations, and access to state-of-the-art infrastructure.

Beyond technical expertise, SGTU places equal importance on developing soft skills, digital literacy, and entrepreneurial thinking, ensuring graduates emerge as confident professionals and innovators.

Guided by seasoned academic leaders and industry experts, SGTU's curriculum remains dynamic and relevant to evolving market demands. The University follows a robust curriculum review process supported by Industry Advisory Boards, the integration of Sustainable Development Goals (SDGs), and a modular framework aligned with the National Education Policy (NEP) 2020. Through partnerships with global industry leaders for skill certifications, SGTU is shaping adaptable, sustainability-driven graduates ready to excel in the global workforce.

Empowering Digital Learning & Scientific Excellence

The sponsoring body of Sikkim Global Technical University, Indira Gandhi Computer Saksharta Mission (IGCSM), has been instrumental in advancing digital literacy across India through its extensive network of affordable training centers, empowering thousands with essential computer skills and bridging the digital divide. At SGTU, the School of Computer Science & IT follows a dual-layered approach, building strong foundations in programming and algorithms while integrating advanced technologies through AI & ML labs, data analytics centers,

and cybersecurity simulations. Similarly, the School of Science emphasizes a balance between conceptual learning and practical application through advanced laboratories and research-driven projects. Together, these initiatives equip students with technical depth, innovation skills, and real-world readiness for the evolving digital economy.

Experiential & Industry-Linked Learning

SGTU emphasizes experiential, industry-integrated learning across all its schools to ensure holistic student development and career readiness. The School of Commerce and Management follows an 'Industry Immersion Model', offering internships, live projects, case studies, and entrepreneurship programs through incubation centre collaborations. This approach sharpens students' business acumen and leadership skills.

The School of Agriculture provides field-based learning through on-campus farms, Agri-Tech labs, and modules in precision, organic, and sustainable farming. Students also intern with agri-business firms, preparing them to drive innovation and rural development.

Similarly, the School of Hotel Management combines culinary labs, hospitality simulation centers, and internships with top hotel chains to cultivate global-standard service and management expertise.

In the School of Engineering and Technology, innovation labs, maker-spaces, and hackathons promote design thinking, research collaboration, and real-world problem-solving.

Meanwhile, the School of Allied Health Sciences collaborates with hospitals and clinics for clinical rotations, internships, and hands-on training in advanced medical labs.

Together, these multidisciplinary, industry-linked models ensure SGTU graduates emerge as skilled, innovative, and socially responsible professionals, ready to lead across business, technology, agriculture, healthcare, and hospitality sectors.

Driving Transformation through Academic Excellence

Sikkim Global Technical University (SGTU) embodies a holistic approach to higher education, combining academic rigor with practical skill development to prepare students for global challenges. Its NEP-aligned curriculum ensures that learning is outcome-based, future-ready, and integrated with the latest technological and industry trends. The University's faculty, with global exposure and extensive industry experience, provide mentorship that bridges theoretical knowledge with real-world applications.

SGTU offers skill-integrated, multidisciplinary programs across engineering, agriculture, management, health sciences, hospitality, and more. Students gain

hands-on experience through internships, live projects, research initiatives, and innovation labs, ensuring practical competence alongside academic learning. Strong industry partnerships and placement support further connect students to professional opportunities, while entrepreneurship-focused initiatives and incubation centers nurture innovators and leaders.

The University emphasizes research, innovation, and student-centric learning, fostering creativity, critical thinking, and problem-solving. Global collaborations and exposure equip graduates to compete internationally while contributing meaningfully to regional development.

Beyond academics, SGTU is a driver of social and economic transformation in the North East, empowering youth with knowledge, skills, and values that align with national priorities. By transforming education into a bridge between aspiration and opportunity, SGTU is shaping a generation of professionals poised to make an impact both regionally and globally.

SGTU's Vision for the Future

Sikkim Global Technical University envisions a transformative journey that extends beyond conventional education to create a lasting impact on the North East and the global academic landscape. Its strategic roadmap emphasizes establishing Centres of Excellence in Artificial Intelligence,

Green Technology, and Biotechnology, fostering cutting-edge research and innovation across emerging fields. By expanding global collaborations with leading universities, SGTU aims to enable student and faculty exchanges, promoting cross-cultural learning, knowledge sharing, and exposure to international best practices.

The University is also focused on developing a dedicated research park and incubation hub, providing a platform for entrepreneurship, start-up mentoring, and industry-driven innovation. Digital-first learning models, powered by AI-driven adaptive learning, are being introduced to make education more personalized, efficient, and aligned with evolving global demands. Sustainability remains a cornerstone of SGTU's vision, with initiatives in renewable energy, rural development, and environmentally conscious research projects reflecting its commitment to societal impact.

Through these initiatives, SGTU is not only preparing students to excel professionally but also empowering them to contribute meaningfully to regional development, sustainable practices, and technological advancement. By combining academic excellence, industry integration, and forward-looking research, it is shaping a generation of innovators, leaders, and socially responsible professionals who will define the future of education, economy, and society in the North East and beyond. **HER**

RESEARCH, INNOVATION & COLLABORATION DRIVING HIGHER EDUCATION

Dr Bhawana Chanana, Founder Director of Amity School of Fashion Design & Technology

Dr Bhawana Chanana is a PhD in Fabric and Apparel Science from the University of Delhi. She has teaching and research experience of 27 years with Delhi University. She is the founder Director of Amity School of Fashion Design & Technology at Amity University Mumbai, serving since 2015. Her teaching experience spans subjects like Design research, Fashion technology, Textile processing, Fabric science, Apparel & Textile Design, IPR. She has been on the advisory board and jury panels of various eminent Fashion & Textiles Institutes.

Collaboration fosters innovation, knowledge exchange, and interdisciplinary breakthroughs, ultimately elevating academia to new heights. Bridging disciplinary gaps and creating knowledge networks promotes a collective approach. That can propel higher education into a realm of enriched scholarly output. By pooling the intellectual resources of diverse minds, academia can achieve a level of innovation and problem-solving prowess that transcends the limitations of individuals.

India's current research & innovation landscape & challenges:

India's research ecosystem shows limited collaboration among academia, industry, and government. Low R&D budgets and insufficient industry investment limits research infrastructure and quality.

Boosting research and innovation can be achieved by increasing the industry-academia partnerships and improving the regulatory landscape, including intellectual property laws.

A multifaceted approach involving academia, industry, and government is needed to transform India into a globally competitive research hub, with better funding and international collaborations.

Collaboration between industry and academia is vital for fostering innovation and ensuring that research outcomes have real-world applications. The regulatory framework in India has also been evolving to support research and innovation. Initiatives like NEP 2020 and the establishment of the National Research Foundation (NRF) are steps toward creating a more research-friendly environment. Bridging the gaps in intellectual property rights (IPR) laws, patent procedures and the overall regulatory landscape is crucial in streamlining and promoting robust research collaboration in India.

Double accreditation, financial aid, & Connectivity to the Employment Market

NEI is an example of a disruptive trend in higher education. Some universities have already been transformed for the future. For instance, some universities offer modular,

digital-only courses, with available materials in the form of written, video, and recorded content, offering double certifications in partnership with other universities. These universities understand the non-existent likelihood of students participating in scheduled courses, allowing them to study at their own pace, considering different circumstances such as working at other jobs, preferences to study at night, or living in other countries. Such digital universities often collaborate with other universities and offer double accreditation, financial aid, and connectivity to the employment market, special guest appearances, case studies, and special work terms with participating companies.

> To thrive in the evolving higher education ecosystem, institutions' focus must prioritize outcome-based research and strengthen innovation ecosystems

The future of research lies at the intersection of disciplines, for example, AI with humanities, Fashion with technology, Design with materials science, Environment with engineering and so on.

Institutions that break down departmental silos are leading in innovation. Innovation is shifting from isolated centres to a campus-wide ethos that encourages experimentation and student-led innovation and entrepreneurship. Teaching-learning pedagogies are increasingly expected to address real-world challenges such as sustainability, digital transformation and demonstrate measurable social and economic outcomes.

Accelerating Innovation by partnering with industry to co-create curriculum

Universities are leveraging emerging technologies by incorporating Artificial Intelligence & data analytics and Extended Reality (XR) for immersive learning. Innovation accelerates when higher education partners with industry to co-create curriculum. Industry-academia partnerships can be extended in setting up innovation labs and accelerators, support internships and live projects, enable technology transfer and commercialization.

To thrive in the evolving higher education ecosystem, institutions' focus must prioritize outcome-based research and strengthen innovation ecosystems. There is a need to create flexible policies that encourage collaboration. To remain relevant and future-ready all HEIs must invest in faculty and student capacity and embrace digital transformation, strategically

Research, innovation, and collaboration are no longer optional - they are the driving forces shaping the future of higher education. Institutions that cultivate these pillars will be better positioned to produce impactful knowledge, nurture future-ready learners, and contribute meaningfully to society. HER

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and transform the way your enterprise thinks, works, and grows.

The northeastern region of India is home to a diverse and growing network of colleges that are steadily gaining recognition for their academic excellence, research contributions, and holistic student development. Encompassing states like Assam, Meghalaya, Nagaland, Manipur, Tripura, Arunachal Pradesh, Mizoram, and Sikkim, this region offers a unique blend of cultural richness and educational opportunity, making it an emerging hub for higher education in the country. Colleges here are increasingly combining traditional disciplines with modern curricula, catering to the evolving demands of industries and the global knowledge economy.

Institutions in the Northeast offer programs across engineering, medicine, sciences, humanities, social sciences, business management, and emerging technologies, providing students with opportunities to develop both technical skills and critical thinking. Many of these colleges have forged collaborations with national and international universities, enhancing research capabilities, faculty expertise, and exposure to global best practices. Additionally, several northeastern colleges emphasize experiential learning, entrepreneurship, and community engagement, fostering well-rounded graduates who are prepared for professional challenges and societal contributions.

Despite geographical challenges, the region's colleges are leveraging digital tools, innovative pedagogy, and skill-based programs to compete with premier institutions across India. With a strong focus on inclusivity, sustainability, and local cultural integration, these colleges not only provide quality education but also preserve and promote the unique heritage of the Northeast. As awareness of their academic strengths grows, colleges in the Northeast are increasingly attracting talent from across the country, positioning the region as a promising destination for higher learning, research, and innovation.

This issue of **Higher Education Review** talks about some of the professionally managed colleges in the country, which has been nurtured with best technical and professional infrastructure and assistance from efficient and skilled faculties ensuring delivery of quality higher education and research. This issue spotlights a list of **'Top 10 Promising Colleges in the Northeast - 2025'**, the list has been crafted by a team of Industry veterans, CEOs, VCs and the Higher Education Review editorial team.

Institutions in the Northeast offer programs across engineering, medicine, sciences, humanities, social sciences, business management, and emerging technologies, providing students with opportunities to develop both technical skills and critical thinking

Gauhati University
Guwahati
gauhati.ac.in

Prof. Nani Gopal Mahanta
Vice Chancellor

Offers diverse fields like Arts, Science, Commerce, Law, Education, Management, and specialized areas through its institutes, focusing on humanities, social sciences, sciences, and North East India Studies

Indian Institute of Management, Shillong
Shillong
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Prof. Nalini Prava Tripathy
Director

Provides core management programs like the flagship PGPM (MBA), a unique Integrated Program in Management (IPM) (BBA+MBA), an executive PGPEx (India & China focus), and a Doctoral (PhD) program

HIGHER EDUCATION Review TOP 10 PROMISING
COLLEGES IN THE NORTH EAST
2025

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manipuruniv.ac.in

Prof. N Lokendra Singh
Vice Chancellor

Offers a wide range of undergraduate, postgraduate, and doctoral programs across Schools of Studies and numerous departments, covering Arts like Korean, Dance, Music, Sciences, Commerce, Law, Engineering, and more

Mizoram University
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Prof. Jhumur Lodh
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The institute supplements the curriculum with parallel professional certifications, industry-led workshops, and practical skill training, including collaborations that enable students to learn from industry professionals

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ustm.ac.in

Mahbubul Hoque
Chancellor

The university is focused on transforming education in Northeast India, offering diverse undergraduate, postgraduate, and PhD programs in science, technology, and health, including courses like MBBS and Pharmacy

SCHOLAR'S INSTITUTE OF TECHNOLOGY AND MANAGEMENT

IGNITING PASSION FOR PROBLEM-SOLVING THROUGH HANDS-ON ENGINEERING CHALLENGES

Higher education in India is rapidly evolving, embracing experiential learning, interdisciplinary exposure, and technology-driven teaching methods. Institutions now focus on practical applications, innovation, and skill-based outcomes, preparing students to meet the demands of modern industry. This shift marks a transformational phase in the country's academic landscape, shaping future-ready learners equipped for a dynamic world. For Scholar's Institute of Technology and Management (SITM), this shift is not a challenge but an opportunity to break free from orthodox academic delivery and build a learning model rooted in skill development, application-based training, and industry relevance. This institute follows the standard university curriculum while transforming learning through practical exposure, case-based training, digital fluency, and NEP-aligned industry readiness.

The story of SITM reflects humble beginnings and transformative growth. What started in 1992 as Scholars Academy, one of the earliest platforms offering coaching for medical and engineering aspirants in Assam, slowly evolved into a full-fledged technical institution. Built from a single vision, this institute today stands as a multi-disciplinary campus empowering students from India and abroad, nurturing talent from regions including Sudan, Africa, and Fiji. Its journey embodies resilience, accessibility, and the life-changing impact of education.

Skill Integration & Real-World Training

SITM ensures that students graduate with more than theoretical knowledge. While the university curriculum remains constant, the institute supplements

Prof. Jhumur Lodh
Director

it with parallel professional certifications, industry-delivered workshops, and practical skill training. Collaborations such as the MOU with Geeks of Gurukul, founded by IIT alumni, and another with IBM enable students to learn directly from industry professionals in artificial intelligence, machine learning, deep learning, digital marketing, data science, and business analytics. Through internships, case studies, and project-based learning, students apply classroom knowledge to industry-grade situations, making them confident and deployment-ready.

Strong core foundations are maintained through rigorous teaching in mathematics, engineering sciences, and domain-specific subjects. Hands-on learning takes place through

advanced laboratory sessions, hackathons, major and minor projects, and continuous internal evaluation. Faculty development remains central to SITM's quality model. Speaking more on this, Jhumur Lodh, Director, says, "Our teachers undergo regular pedagogical training, industry orientation, research exposure, and skill-development programs, which help them shift from traditional instruction toward facilitative mentorship. This balance of theory and experience nurtures graduates who think critically, innovate boldly, and adapt to evolving technical environments".

> SITM is where knowledge meets experience, shaping learners into confident innovators prepared for industry, society, and a technology-driven future

Innovation Clubs & Community Engagement

SITM believes that engineering education must develop both intellect and character. Innovation clubs, student research cells, and interdisciplinary project spaces encourage curiosity, experimentation, and collaboration. Every student undertakes two projects, one minor and one major, the latter often interdisciplinary to expand cross-domain understanding and problem-solving. The annual tech fest, Udbhavan, becomes a platform where students exhibit projects, interact with industry experts, and compete with peers from neighbouring institutions, strengthening communication skills and industry awareness.

Beyond academics, SITM nurtures personality, leadership, physical well-being, and social responsibility. Sports, cultural activities, and inter-college participation build teamwork and discipline. The annual inter-college cricket tournament, hosted every year, is a signature event that enhances collaboration across campuses while teaching students event planning, coordination, and leadership through real execution. Community exposure remains deeply integrated into the curriculum. Students visit nearby villages and schools, teach young learners, undertake social surveys, and work on simple yet impactful problem-solving interventions. This engagement builds empathy, civic awareness, and a sense of responsibility, qualities that define a holistic engineer.

SITM is already expanding into futuristic academic domains, moving beyond conventional engineering to introduce niche courses like BSc Data Science & Business Analytics, BA Psychology with AI, and Commerce with AI. These next-generation programs are designed to create alternate career pathways aligned with emerging industries. The institute's new phase of development brings industry professionals directly into the classroom, ensuring students learn not only what textbooks teach, but what the market demands.

In conclusion, SITM stands at the forefront of educational evolution in the northeast, blending strong academics with practical, industry-oriented learning. With future-ready programs, global exposure, and a holistic campus culture, it prepares students to innovate, lead, and contribute meaningfully to society. Here, learning becomes experience, and education becomes empowerment. **HER**

HOW INTERNSHIPS & FELLOWSHIPS SHAPE POLITICAL SCIENCE CAREERS

Madhulika Banerjee, Professor at the Department of Political Science, University of Delhi

Madhulika Banerjee, Professor at the Department of Political Science, University of Delhi, in an interaction with Grena, Correspondent, Higher Education Review magazine, talks about the impact of internships and fellowships in political science. She states that the LAMP Fellowship is one such opportunity that allows students to better understand how legislatures work, develop analytical and critical thinking skills, and pursue a career path outside of teaching and civil services positions, bridging the gap between academic study and real-world practice.

Madhulika Banerjee is a prominent professor and researcher in political science with forty years of experience in teaching, research, and academic administration. Her interests focus on connecting higher learning to real-world development practice, motivating students to be engaged with activists to effect social change, and fostering interdisciplinary collaborations that inquire into traditional knowledge and climate action.

What types of fellowships offer the most impactful career exposure for aspiring political analysts and policymakers?

Political science students are often assumed to become political analysts or policy makers, but their scope extends beyond that. Some fellowships have some direct relation to policy making and political analysis. People assume that as soon as a person is elected, they can make laws, but it doesn't work that way. It helps if a legislator has a team that can explain how laws are made, what components go into them, what is left out, and who should be consulted for inputs. Political science students can contribute effectively in such teams.

A notable program activity is the LAMP Fellowship, offered by PRS Legislative Research, which allows individuals to work with Members of Parliament. This fellowship supports them to understand the legislative process and the complexities of policymaking, which is key to their professional development. In addition to this, there are organizations engaged in political education and electoral analysis, helping to understand electoral dynamics and campaign strategies.

Policymaking in India has long been dominated by economists, because policy has been viewed primarily in terms of economic development. Therefore, few political scientists make it to policy. The perspective has been changing, and many are trying to strengthen their role. Some students have formed policy collectives in DU colleges and the postgraduate department, where they learn from varying sources and develop skills.

How can students identify and apply for global opportunities that align with their political interests and career goals?

Most students begin through a civil society organization, gain experience, and later find collaborations or training

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opportunities abroad. This depends entirely on individual initiative since there is no established structure or pattern of internships for political science students. In contrast, fields such as social work or management have clear markets and job space. They can facilitate internships and placements because they are considered professional degrees. Political science does not have that structure.

By default, most political science students move toward two streams: teaching and the civil service. Teaching is often considered an easy choice, though there is little focus on formal training or pedagogy. Those who wish to teach at college or university levels pursue higher studies such as PhD. Others with a bachelor's degree often teach at schools, once they have another degree in education.

The second stream is government and civil service exams - for administrative or banking jobs. However, only a small percentage succeeds, while the rest struggle to find appropriate opportunities. This is unfortunate because political science trains students in critical thinking and analytical skills, which are useful in various areas.

Universities and departments rarely view their students as employable based on these skills. However, graduates are able to apply their capabilities and possibilities to civil society organizations, media, and publishing. Social science publishing too requires deep understanding, editing, and research abilities.

However, many institutions and teachers do not consider employability. There remains a traditional belief that universities are meant only to build thinkers, not professionals. But it is possible to be both thinking individual and employable. Students who take initiative and explore beyond conventional streams often perform very well.

What skills gained through internships and fellowships are most valued by employers in political and governmental sectors?

In government sectors, hiring does not occur in the corporate model of hiring someone based on skills. Entry happens through competitive examinations, and once selected, candidates receive in-service training as per government expectations. Hence, there is no direct link between degree-based training and employability.

The corporate model of hiring based on previously learned skills does not apply to the social sciences. In civil society, media, and public policy sectors, employers often appreciate political science students for their temperament, critical understanding, and analytical ability. Many

employers recognize that political science graduates possess the appropriate attitudes and competencies aligned with research and analysis. However, few university departments intentionally develop courses that cultivate these attributes. There is a gap between academic training and field expectations.

Despite that, social sciences do build abilities such as critical thinking, argumentation, evaluation of perspectives, and understanding of policies, which are highly valued. Whenever employers in media or civil society sectors hire political science students, they find them capable and adaptable.

What role do mentorship and networking during internships play in building a strong foundation for a political career?

A political career has nothing to do with studying political science. Most people who enter politics do not have a background in political science. There is no direct relationship between the study of political science and a career in politics or policy. Most political science students consider teaching or civil services as realistic paths to employment. Very few pursue political work, and there are no specific structure internships or mentorships available to guide students toward political careers.

This gap highlights a larger concern-as one of the largest departments in many universities, the political science discipline is provided with little emphasis on strengthening academic learning with practical engagement in politics or policy. Political science as a discipline is designed to build an understanding of power, political institutions, and governance, rather than training students for specific roles in politics. To render the education system more effective, there is need for reoriented training, better teacher preparation, and an updated perspective on how the subject can translate into real-world impact.

Traditional mentorship and internships might not apply here; education in political science still fosters important intellectual skills. It prepares students to think historically and critically, where to be critical means to truly understand and consider varying perspectives and alternatives. Such critical thinking allows students to explore issues from many perspectives and develop innovative solutions. Therefore, while the conventional idea of mentorship may be absent, the discipline itself equips students with cognitive and analytical foundations essential for success in varied fields such as education, governance, civil society, and media. HER

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HOW SIMULATION TECHNOLOGY IS TRANSFORMING SPORTS TRAINING

Ts. Abdul Halim bin Abdul Rahman, Lecturer, Department of Computing & Information Technology, Tunku Abdul Rahman University of Management and Technology (TAR UMT)

Ts. Abdul Halim bin Abdul Rahman, Lecturer, Department of Computing & Information Technology, Tunku Abdul Rahman University of Management and Technology (TAR UMT) in an interaction with Higher Education Review shared his views on how simulation technologies such as VR, AR, and computer modeling can be effectively integrated into traditional sports training programs to enhance performance, what specific skills such as technical, tactical, or cognitive are most improved through simulation-based training, how real-time feedback in simulations influence athlete learning, motivation, and retention of skills and more.

How can simulation technologies (VR, AR, and computer modeling) be effectively integrated into traditional sports training programs to enhance performance?

Simulation technologies like Virtual Reality (VR), Augmented Reality (AR), and computer modelling can enhance traditional sports training by making it more interactive and engaging. For example, VR can take players through virtual matches, helping them practice different situations, even when they have no opponent available. Meanwhile, AR can supply with helpful information into the real-world environment, like giving the tips or offering recommendations during training. Lastly, computer modeling can simulate various game scenarios such as the intensity of the game, different weather conditions, facing different level of opponents and many more. This integration allows athletes to train in smarter, more personalized ways, enhancing their skills without always needing a coach or partner. Let us take a look in badminton for example. These simulation technologies allow players to improve specific techniques such as shot accuracy or court positioning.

What specific skills such as technical, tactical, or cognitive are most improved through simulation-based training?

Simulation-based training can improve the technical, tactical, even the cognitive skills. I am again using the badminton as a reference since it is one of my case study in research. Technical skills, like shot accuracy, can be practiced in a controlled setting, allowing players to work on their precision without worrying about game pressure. Tactical skills, such as deciding when to attack or defend, can be sharpened by repeatedly practicing real-game situations in simulations. This might mean practicing a smash at different angles or learning to anticipate your opponent's moves in order to win the game. Do not forget, cognitive skills such as decision-making are also sharpened. For example, simulations can help players focus under pressure or make quick decisions when they are tired. Through simulations, they can learn how to stay calm and make better decisions even when the game is not favorable to them.

How does real-time feedback in simulations influence athlete learning, motivation, and retention of skills?

Real-time feedback during training is the best part of this simulation. I like to bring your imagination as a badminton player. Imagine you are practicing new serve techniques and get the feedback almost instantly. For example, the feedback might comment on your gestures. Maybe your
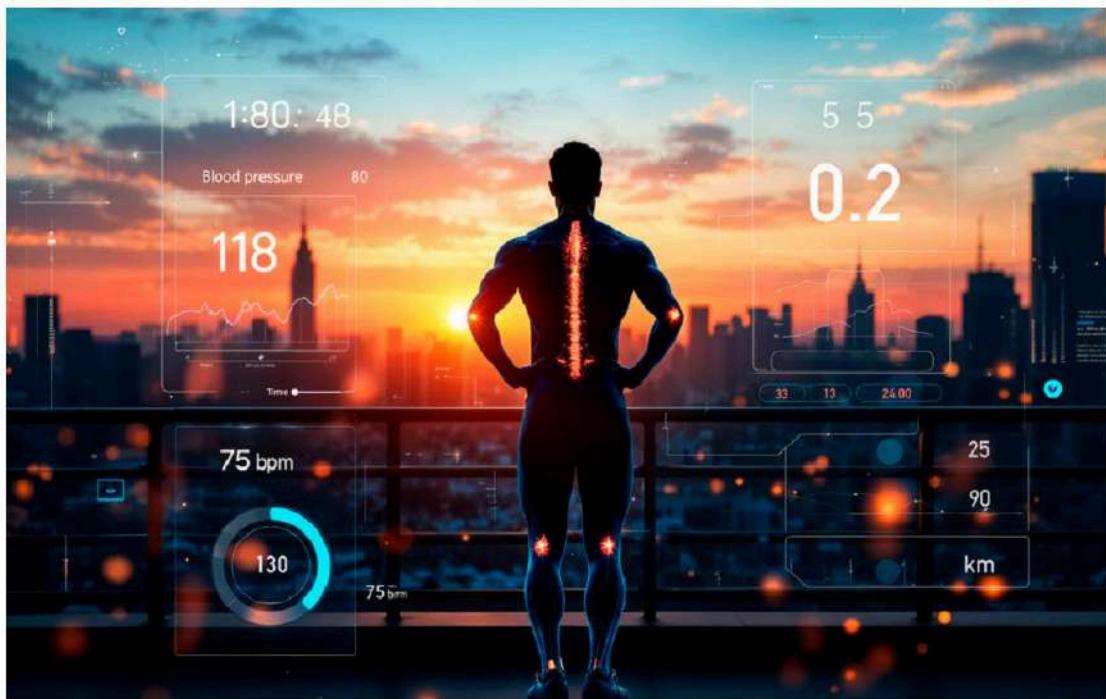
racket angle needs some adjustment or you are hitting the shuttle too high. Getting this kind of feedback in the moment helps athletes make quick changes and avoid repeating mistakes. It also keeps them motivated because they can see the recommendations right away. In additional notes, when the players can immediately correcting their technique, they will retain the skills better. This real-time feedback makes learning feel instantaneous rather than waiting for a coach's review after the session.

In what ways can simulation help prevent injuries by analyzing biomechanics and workload management?

Simulation can help prevent injuries by tracking how athletes move and helping them avoid movements that might lead to injuries. In badminton, for example, the simulations instant feedback can identify if a player is landing improperly or using their body in a way that increases their risk of injury like putting too much strain on their knees or shoulders. These simulations can also monitor how much workload a player can handle, ensuring that they are not train too much exceeding the limits, which can lead to fatigue or injury. By adjusting training intensity based on the simulation's feedback, athletes can train smarter and prevent physical setbacks before they happen.

What are the measurable performance outcomes of athletes who use simulation-based training compared to traditional methods?

Athletes who use simulation-based training most-likely will see noticeable improvements in their performance. For example, badminton players can see increased shot accuracy because they have practiced their techniques repeatedly in a simulation environment. The best thing about these simulations is that they can recreate real-game pressure. Meaning that the players now are able to think fast and make better decisions under stress. In contrast, traditional training methods often focus on repetitive drills without the same level of game-like pressure or feedback. Players who use simulations tend to improve their overall gameplay faster and more consistently without having to wait for real matches.

How can simulations replicate the psychological pressure and decision-making demands of real competition?

As we all know, the simulations are able to duplicate the situations similar like the real world. In this case, simulations can be used to give the athletes an experience on how to handle the psychological pressure during real competition. By adjusting virtual game scenarios to reflect

moments when a player is down in points or facing a particularly tough opponent, simulations can help athletes to handle and overcome this stress. In badminton, a player could practice shots while feeling the pressure of a crowd or a ticking clock, helping them stay calm and make better decisions in real competition. Through this kind of training, players can simulate high-intensity moments and prepare themselves to handle the real-game demands with minimum risk of losing the game.

How can simulation technologies assist in rehabilitation and return-to-play programs for injured athletes?

Simulation can be the most needed helping hand in rehabilitation and getting injured athletes back into the game safely. For the athletes who are recovering from an injury, it is important to rebuild confidence mentally and physically in their training series before returning to full-intensity training. This simulation allows them to practice basic movements and gradually build up to more intense scenarios in a controlled environment without the risk of injury. For badminton players, a simulation might help them practice footwork or shot execution while checking for any discomfort. It gives them a safe space to recover while still being able to practice and stay sharp.

> Virtual coaches may be able to analyze every detail of a player's performance in terms of technical, tactical and cognitive aspects

What are the future trends and innovations likely to shape simulation-based sports training over the next decade?

In the next decade, we will likely see smarter, more personalized simulations that can predict exactly what an athlete needs to work on. Even at the moment, the usage of Artificial Intelligence (AI) is becoming a trend

and used widely in almost everything. Same goes with these sports simulations. These systems will combine AI, VR, AR, and wearables to offer the most engaging and realistic training experiences. Virtual coaches may be able to analyze every detail of a player's performance in terms of technical, tactical and cognitive aspects. Then the results will be used to adjust training strategies in real-time. We might also see the involvement of metaverse in the training simulation, where the athletes are able to train among themselves virtually regardless where they are. This type of sports simulation in the future will be incredibly immersive and data-driven.

What new career opportunities are emerging for professionals skilled in sports simulation technologies, such as VR/AR development, sports data analysis, and performance engineering?

As sports simulation technologies continue to evolve, there will be always a demand in this field. Some of the potential career opportunities are the VR/AR developers, who are responsible to develop the complete system to be used. They are not only responsible for the development, but also the maintenance of the systems. Another career opportunity is sports analyst. Sports analysts who specialize in interpreting performance data from simulations will also play a critical role in helping athletes maximize their potential. Apart from that, the career as a sports engineer also is needed. Sports engineers will work to build the next generation of wearable tech and biomechanical monitoring tools. And, I am pretty sure there are a lot of other career opportunities will be up for grab in this sports simulation technologies.

How can coaches, trainers, and sports scientists upskill or specialize in simulation-based training to stay competitive in the evolving sports industry?

To stay competitive, coaches, trainers, and sports scientists need to embrace simulation-based training and become familiar with new tech. Upskilling in related areas like data analysis, VR/AR tools, and biomechanics will help these professionals incorporate advanced training into their programs. Other than that, coaches and trainers can attend workshops, online courses, and conferences focused on new technologies in sports. By working closely with the people behind these technologies, they can understand how to use simulation tools to tailor training for the needs of each athlete. As sports technology continues to grow, coaches who can blend traditional expertise with cutting-edge simulation tools, including able to integrate in AI, will be more effective and in-demand. HER

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HOW EXPERIENTIAL LEARNING IS
TRANSFORMING INDIAN EDUCATION

▬▬▬ ▟▟▟ **Nirvaan Birla, Managing Director, Birla Open Minds**

Nirvaan Birla, Managing Director, Birla Open Minds has been at the forefront of redefining education in India since 2016, when he began his journey with Birla Open Minds Education. Under his leadership, Birla Open Minds expanded from just 30 schools to over 280 institutions across 160+ cities in 24 Indian states, nurturing a thriving community of learners. This remarkable growth reflects Nirvaan's commitment to fostering holistic, inclusive, and future-ready education that adapts to evolving learner needs.

What if classrooms looked more like laboratories of life, where students did more than they read? That's the heart of experiential learning, a concept that's quietly rewriting the rules of education. It's not about cramming for a test or memorizing definitions. It's about rolling up sleeves, asking "why," and discovering "how." Whether it's building a model city to understand urban planning, growing a garden to explore biology, or running a mock business to learn economics, students learn by doing, reflecting, and connecting what they experience to what they know.

Because the truth is, the future of education won't be decided by how much a child can memorize, but by how well they can think, apply, and adapt. As the world changes faster than ever, our classrooms need to evolve too, from spaces of instruction to spaces of exploration. That's where experiential learning steps in, as the bridge between knowledge and wisdom, between lessons and life.

For decades, Indian education has been about content and recall. But knowledge without context is like a recipe without taste, it looks good on paper but doesn't stick. Experiential learning changes that. It brings subjects to life, connects theory with reality, and encourages students to reflect on their learning journey, making lessons that last long after the exam bell rings.

Globally, this shift is gaining ground. From Finland to Singapore, schools are rethinking learning itself, not as a one-way transfer of information, but as an experience that builds curiosity and courage. India too is catching up fast. The National Education Policy (NEP) 2020 and CBSE's competency-based framework are nudging schools toward inquiry, experimentation, and collaboration. Project-based learning, design thinking, and reflective exercises are making classrooms more dynamic and relevant.

At its core, experiential learning follows a simple but powerful cycle, experience, reflect, conceptualize, experiment. Students dive into a real situation, observe what happens, draw insights, and then test their understanding again. It's learning on loop, until concepts become second nature. For example, a student studying nutrition doesn't just read about it, they decode food labels, experiment with recipes, and even create their own "healthy bites."

The beauty of this approach is that it doesn't stop at academics. It builds thinkers, problem-solvers, and empathetic humans. When learners are encouraged to question, collaborate, and create, they develop the confidence and adaptability needed to thrive in a world that's constantly evolving.
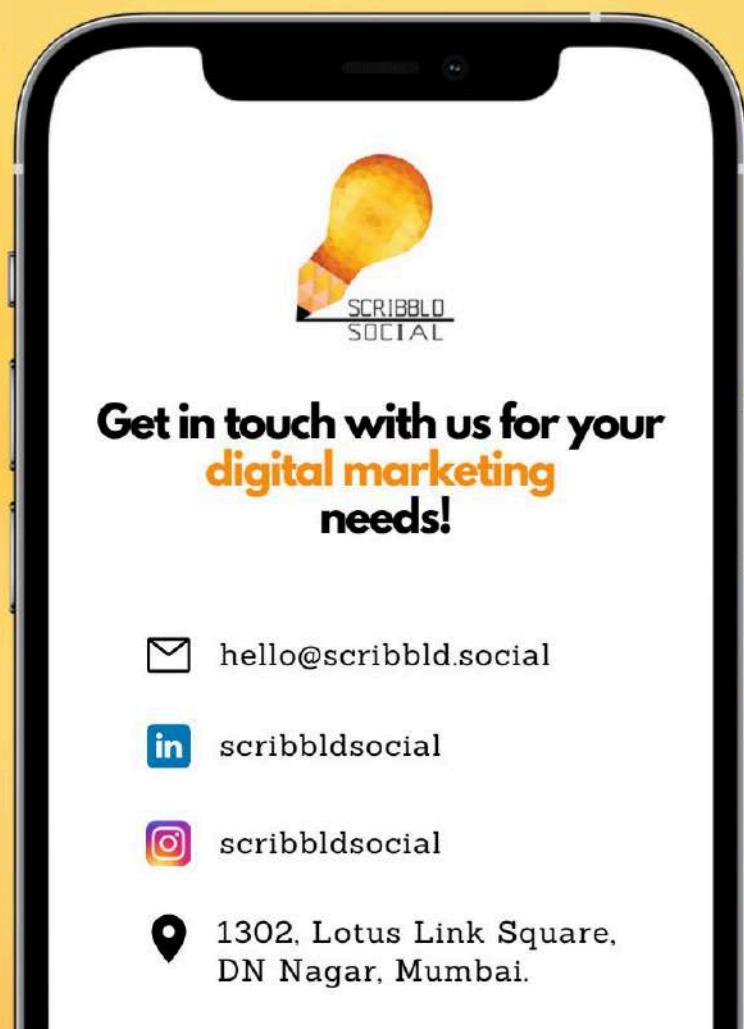
But this shift needs more than new curriculums, it needs a new mindset. Schools have to move from 'marks to mastery'. Teachers must become facilitators of curiosity, not just carriers of content. And parents must celebrate the "Aha!" moments as much as the "A+" ones.

Experiential learning makes education come alive, more joyful, more human, and infinitely more relevant. As India stands on the cusp of an education revolution, the goal is clear: move from teaching to learning, from knowing to doing, and from grades to growth.

Because the future won't belong to those who simply know, it will belong to those who can "think, create, and experience their way forward." HER