# Young Hans

# Why the first five years form the most critical stage of learning and development

Sibi Fakih

Early childhood is often viewed as a stage before "real education" begins. However, findings from developmental science and decades of research suggest that the first five years of life are not merely preparation for learning; they are the period during which the foundations of learning are established.

The significance of this stage is reflected in the rapid pace of growth that takes place during these years. The first 1,000 days, from conception to around a child's second birthday, are recognised by international agencies such as WHO and UNICEF as a critical period for growth and development. The years that follow continue this process, extending into roughly the first 3,000 days of life and influencing brain development, cognitive abilities, emotional regulation, physical health, and social skills.

Research indicates that most neural connections are formed during the first few years, with nearly 85 per cent of brain development occurring before the age of five. Experiences during this period can have lasting effects on how children learn, communicate, and interact with the world around them. Learning begins well before children encounter formal instruction. It develops through everyday experiences involving touch, language, play, movement, and secure relationships with caregivers.

This understanding has gained greater relevance in recent years. Developmental challenges are no longer confined to disadvantaged communities. While poverty and malnutrition continue to affect many children, concerns are increasingly emerging across socioeconomic groups. Excessive screen exposure, reduced physical activity, childhood obesity, delayed social development, emotional difficulties, and behavioural concerns are being observed among children from diverse backgrounds.

These trends highlight the importance of distinguishing academic readiness from developmental readiness. Early learning is not limited to acquiring literacy and numeracy skills. It also includes developing communication abilities, emotional security, self-regulation, curiosity, and social competence. Healthy development depends on adequate nutrition, responsive caregiving, opportunities for play, movement, and language-rich environments.

Evidence from longitudinal studies has consistently shown that children who receive appropriate nutrition, emotional support, and cognitive stimulation during the early years are more likely to perform better in school, develop essential life skills, and participate productively in society later in life. These outcomes underline the importance of viewing early childhood as an integral part of human development rather than simply the beginning of formal education.

One challenge, however, is that structured learning and developmental support often begin relatively late. For many children, organised services become available only through preschools or Anganwadis when they are around two-and-a-half to three years old. By that stage, much of the most rapid phase of brain development has already taken place. This highlights the importance of supporting children and families from the earliest stages of life.

Parents and caregivers play a particularly important role during this period. Research has demonstrated that simple and consistent interactions such as talking, reading, singing, playing, and responding to a child's cues contribute significantly to brain development and language acquisition. These activities do not require specialised resources but rely primarily on responsive and nurturing relationships.

Educational institutions also have an important role to play. Early childhood programmes need to support children's overall development rather than focus exclusively on academic outcomes. Health, nutrition, emotional well-being, play, and learning are interconnected and should be viewed as complementary aspects of child development.

Teachers and caregivers working with young children benefit from an understanding of developmental milestones and the ways children learn during the early years. Knowledge of emotional development, communication, and age-appropriate learning practices can help create environments that support children's growth and well-being. Addressing the needs of young children also requires collaboration across sectors. Health, nutrition, education, and social support systems are closely linked during the early years. Strengthening coordination among different agencies and community institutions can help ensure that children and families receive comprehensive support during this critical phase.

- Early childhood lays the foundation for lifelong learning, with nearly 85% of brain development occurring in the first five years.
- The first 1,000 days are critical, shaping future health, cognition, and emotional well-being.
- Modern childhood faces emerging risks, including excessive screen exposure, inactivity, obesity, and delayed social development.
- Parents are a child's first teachers, and everyday interactions significantly influence development.
- Investing early is essential for Viksit Bharat 2047, requiring coordinated action across education, health, nutrition, and family support.

# UoH alumni-led ATGC biotech showcases sustainable agri-tech at Bharat Innovates 2026 in France

HYDERABAD: The University of Hyderabad (UoH) alumni network found representation on the global stage as ATGC Biotech Pvt. Ltd., co-founded by two former students of the university, participated in Bharat Innovates 2026, an international showcase of India's deep-tech ecosystem held in Nice, France, from June 14 to 16.

ATGC Biotech was among 120 high-potential startups selected to showcase India's advances in biotechnology, healthcare, artificial intelligence, semiconductors, sustainability, space technology and advanced manufacturing. The event was organised alongside India-France bilateral engagements during Prime Minister Narendra Modi's visit to France.

The company was founded by Dr. Markandeya Gorantla and Dr. V.B. Reddy, both alumni of the Department of Plant Sciences at the University of Hyderabad.

Dr. Markandeya Gorantla completed his Ph.D. in Plant Sciences between 2000 and 2004 and earlier served as a Senior Research Fellow in the department. He currently serves as Chairman and Managing Director of ATGC Biotech. Dr. V.B. Reddy obtained his M.Sc. in Plant Sciences, completed an Advanced Post-Graduate Diploma in Bioinformatics and later earned his Ph.D. in Plant Sciences from the university. He is the Executive Director of the company.

Established in Genome Valley, Hyderabad, ATGC Biotech focuses on pheromone-based crop protection technologies aimed at supporting sustainable agriculture. The company develops alternatives to conventional insecticides by using species-specific pheromone signals to manage insect populations.

During the event in Nice, the company announced two international collaborations. It exchanged a licensing agreement with Albaugh Europe, a division of the US-headquartered Albaugh Group, for six crop protection products based on ATGC's patented CREMIT pheromone technology platform.

ATGC Biotech also strengthened its international presence through SEMIOPHORE Ltd., a joint venture with Luxembourg Industries Ltd. The venture will focus on developing a portfolio of 18 products tailored for global agricultural markets.

The agreements were exchanged in the presence of Prof. Ajay Kumar Sood, Principal Scientific Adviser to the Government of India, and Dr. Manish Diwan, Head of Research Innovation and Science-led Entrepreneurship Development (RFID) at BIRAC. The ATGC delegation also interacted with Union Minister for Commerce and Industry Piyush Goyal during the event.

According to the company, its technology has been deployed across more than 200,000 acres and is being commercialised through partnerships in Europe, the Americas and Asia. The participation of the UoH alumni-led enterprise at Bharat Innovates 2026 highlights the growing role of Indian research-driven companies in developing technologies for sustainable agriculture and expanding their presence in international markets.

Today is International Picnic Day

## Encouraging active play and social bonding

A day of outdoor fun and companionship during a special Picnic Day celebration aimed at encouraging active play and fostering healthy social interactions. The event provides young learners with an opportunity to step outside the classroom and participate in a variety of recreational activities. Through games, group exercises and free play, children were encouraged to stay physically active while developing teamwork and communication skills. A key highlight of the celebration is the picnic lunch, where students share meals and snacks with their friends, creating an atmosphere of friendship and togetherness. Teachers guides the children through interactive activities that promoted cooperation, sharing and positive social behavior.Such experiences play an important role in supporting children's overall development by combining physical activity with opportunities for social bonding. Spending time outdoors also helps children appreciate nature and develop healthy habits from an early age.

# GITAM launches school of education, adds programmes in AI, biotechnology & entrepreneurship

HYDERABAD: GITAM Deemed to be University, Hyderabad, has announced admissions for the academic year 2026–27, introducing a range of new undergraduate and postgraduate programmes and launching the GITAM School of Education to strengthen its multidisciplinary academic ecosystem.

Among the key additions this year are four-year integrated B.A. B.Ed. and B.Sc. B.Ed. programmes under the Integrated Teacher Education Programme (ITEP), a BBA in Entrepreneurship offered in association with the Bower School of Entrepreneurship, B.Sc. Microbiology, M.Sc. Biotechnology, M.Tech. in Robotics and Artificial Intelligence, and M.Pharm. in Industrial Pharmacy, subject to approval by the Pharmacy Council of India.

The university said the new programmes have been designed to address emerging opportunities in areas such as artificial intelligence, life sciences, entrepreneurship and teacher education.

Admissions are open through the GITAM Admission Test (GAT) 2026 and recognised national and state-level entrance examinations, including TG and AP EAPCET, NCET, NATA, JEE, CUET and CAT. Merit-based scholarships of up to 100 per cent, covering tuition fees, food and accommodation, are available for eligible students.

The GAT 2026, a national-level entrance examination conducted by the university, will be held online on June 28, with applications open until June 26.

The Hyderabad campus offers programmes through its Schools of Technology, Science, Business, Humanities and Social Sciences, Architecture, Pharmacy, Public Policy and the newly established School of Education. Academic offerings span disciplines such as Artificial Intelligence, Data Science, Cyber Security, Biotechnology, Architecture, Psychology, Economics, Media Studies and Teacher Education.

Prof. D. Sambasiva Rao, Pro Vice-Chancellor, GITAM Hyderabad, said, "The launch of the School of Education and the introduction of programmes in Robotics and Artificial Intelligence, Entrepreneurship and Life Sciences reflect our commitment to preparing students for a rapidly evolving world. Through our Liberal Education framework and multidisciplinary environment, we aim to provide students with opportunities to develop the skills required for future careers." He added that the university's Liberal Education framework enables students to combine majors and minors across disciplines, allowing them to pursue personalised learning pathways.

Prof Ramesh Vaddi, Dr Richa Sharma, Prof D S Rao, Dr Mamata, Prof Shamuel Tharu, releasing the school of B Ed, brochure in Hyderabad on Wednesday

# *IIM Ranchi to offer 12-week executive programme in product management in Hyd*

HYDERABAD: The Indian Institute of Management (IIM) Ranchi has announced a 12-week Executive Programme in Product Management, which will be offered at its Hyderabad campus from July 18. The programme is being conducted in collaboration with education platform Masai and will be delivered in a fully offline weekend format.

Designed for aspiring product managers, engineers, designers, students and early-career professionals, the programme covers the entire product lifecycle, including customer discovery, product strategy, roadmap planning, execution, stakeholder management and product analytics. Spread over 72 hours, the programme includes 60 hours of faculty-led sessions by IIM Ranchi and 12 hours of masterclasses by industry practitioners. Participants will also engage with industry leaders through bi-weekly sessions and undertake a capstone project, culminating in a final presentation before a panel of faculty members and professionals.

The curriculum provides exposure to commonly used product management, collaboration, analytics and artificial intelligence tools, with a focus on practical application and project-based learning.

Prof. Deepak Kumar Srivastava, Director of IIM Ranchi, said the programme has been designed to provide participants with a comprehensive understanding of the product lifecycle and the skills required to contribute effectively in product-focused roles. Prof. Manish Bansal, Chairperson of Executive Education and Consulting at IIM Ranchi, said the course combines academic frameworks with practical challenges and industry mentorship to offer participants a hands-on learning experience. The programme will be conducted at the IIM Ranchi Hyderabad campus on weekends. Candidates who have completed Class XII or higher are eligible to apply. Participants who successfully complete the course will receive a certification from IIM Ranchi and a project completion letter for the capstone assignment.