

Report on

Sustainable Development

GOAL 4



QUALITY EDUCATION

Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.



Sustainable Development Goal 4 is about quality education to ensure inclusive and equitable education and promote lifelong learning opportunities. With ten targets and 11 indicators, the world education leaders at UNESCO called for environment education and digital access to be part of learning for all¹.

Shiv Nadar Institution of Eminence (SNIOE) is a multidisciplinary, student-centric research University established in 2011. It has five Schools: Engineering; Natural Sciences; Humanities and Social Sciences; Management & Entrepreneurship; and the Academy of Continuing Education. It is the youngest University to be recognized as an Institution of Eminence by the Government of India, a distinct category of higher education institutions that “strive to become a top hundred Institutions in the world over time. At Shiv Nadar, we contribute to SDG 4 through

teaching, research, institutional practices, and partnerships.

1 Teaching and Learning

We are committed to offering meaningful education around sustainability and related areas to all students across the University besides our core subjects. For undergraduate students, many compulsory courses are regularly offered, such as Environmental Studies (CCC 704), Biodiversity: Assessment & Conservation (CCC 706), Environmental Impact Assessment (CCC 406), and Energy for Sustainable Future (CCC 614), Use of Energy in our Daily Life (CCC 624), and Green Energy Technologies (CCC613).

The School of Management, as part of its three-credit course in Sustainable business strategy (STM205), has launched an initiative

called *Campus as a Living Lab*. Here, students are challenged with a final project in which they work on sustainability initiatives for the Shiv Nadar campus using *Campus as a Living Lab*. These projects address several key topics in sustainability, such as air quality, solar power, sustainable transport, no plastic, waste management for a circular economy, and many more. The entire exercise is not just a course in the curriculum but a way student thinks of *sustainability* as a living reality. Besides, the Departments offer many core courses with sustainability elements integrated across the undergraduate and graduate programs curriculum.

Learning Activities

The University works in collaboration with [The Habitat Trust \(THT\)](#), which focuses on lesser-known species and habitats of India that are threatened, often neglected, and in urgent need of conservation. The partnership

¹<https://transformingeducationsummit.sdg4education2030.org/unesco-world-education-leaders-call-environment-education-and-digital-access-be-part-learning-all>

regularly organizes short webinars and sessions on various themes. Synergence 2022 was a special session on biodiversity organized to discuss the uniqueness of Indian flora and fauna.

Young Thinkers Forum (YTF) is a certified offline program for grades 8-12 students. This weeklong program is held annually, exposing students to different disciplines. It includes various activities, including vertical tutoring between high school and college students, faculty presentations, fun sessions, discussion groups, guest speakers, and interactive multimedia learning. Along with the courses, the students engage in non-academic activities focusing on honing important leadership and networking skills.

The Young Environmentalist Program is specially curated for grades 7-12 school students. It enables participants to engage in various themes such as biodiversity, ecology, growing micro-greens, composting recycling, and sustainable living.

2 Research

An ethnographic account of a class in Sociology

Dr. Subhashim Goswami, Assistant Professor, Department of English, is experimenting with classroom teaching and experimental pedagogical formats in teaching Sociology at the University. The [ethnographic paper](#) he wrote is on

one of his courses conducted at the University, wherein he designed and taught the course primarily to non-humanities, engineering, and science undergraduate students from diverse backgrounds.

In this paper, Dr. Goswami considers a possibility of a pedagogical approach to teaching and what it means to construct a field in anthropological terms during a classroom-based teaching module. He argues that one can construct a field within the classroom by using disturbance as a pedagogical tool. He further demonstrates how to construct a field pedagogically by disturbing the certitude of the known and by reimagining the modes of seeing and hearing the familiar. The ethnographic elucidation of this paper is essentially work produced from this class, images created from within the University, influenced by questions asked by students and accompanying soundscapes produced by students - which demonstrates the possibility of constructing a field by, in a sense, hearing images and seeing sounds.

Hearing Images, Seeing Sounds Disturbance as Pedagogy. Teaching Anthropology: *A Journal of the Royal Anthropological Institute*. 2022. Vol. 11 Issue 2. Pp 24-36. DOI: <https://doi.org/10.22582/ta.v11i2.624>.



Young Environmentalist Program (YEP)



Young Thinkers Forum (YTF)

Pedagogical process in a dance class

Aadya Kartikar, Associate Professor, Department of Art, Media, and Performance, in a study, unpacks the pedagogical process of creating a syllabus, adopting teaching strategies, and assessing student work for negotiating the cultural chasm between students and, hoping to generate a sense of critical questioning, mutual curiosity, and respect. In her research paper, she examines the relationship between traditional dance practices and contemporary educational spaces in the United States to open up a transnational space for dance where training is not simply about learning an art form but rather about the ways in which cultures collide and integrate in the dance class. The class design discussed in the article emerged from an intersection of her training in Odissi with her guru and the institutional requirements of the program.

Kartikar, Aadya. "Locating Odissi in the United States: Dancing through Curricula, Teaching Methods, and Assessment." *Journal of Dance Education* (2022): 1-8.

Impact of early life shocks on educational pursuits

In her research, Dr. Gitanjali Sen, Associate Professor, Department of Economics, studies the impact of climatic conditions on educational pursuits. In her paper, she argues

that a negative rainfall shock faced by children in the initial 1000 days of life and the resulting malnutrition can harm the likelihood of children's survival, overall growth, development of the brain, motor skills, and cognitive abilities, leading to poor performance in education and labor market. The study estimates the impact of adverse shocks at birth on children's cognitive abilities at ages 5, 8, 12, and 15, their educational attainments, and the likelihood of studying STEM at higher secondary school. It unfolded the impact of rainfall shocks on a chain of outcomes connected to long-run educational pursuits, as it helps to identify the most crucial stage for policymaking. The significance of this study lies in the fact that STEM subjects are strongly associated with the labor market; hence, connecting the association with early life shocks seems to be an essential addition to the literature.

Dhamija, Gaurav, and Gitanjali Sen. "Impact of early life shocks on educational pursuits—Does a fade out co-exist with persistence?." *Plos one* 17, no. 10 (2022): e0275871.

Design for cognitive development of kids

Prakash Kumar, Associate Professor, Department of Design in his paper, discusses the significance of toys in a child's cognitive and physical

development. Before starting formal education with the alphabet and numbers, the child learns and understands different phenomena around them by experiencing things through their senses, i.e., seeing, smelling, hearing, or tasting. In this cognitive journey of learning new things, toys play a vital role, and designing such toys is an insightful experience. The paper discusses the process of developing a crocodile toy and details how different features of the actual creature have been integrated to deliver critical information about it interactively. The paper concludes with a discussion of tentative strategies to evaluate the efficacy of the toy.

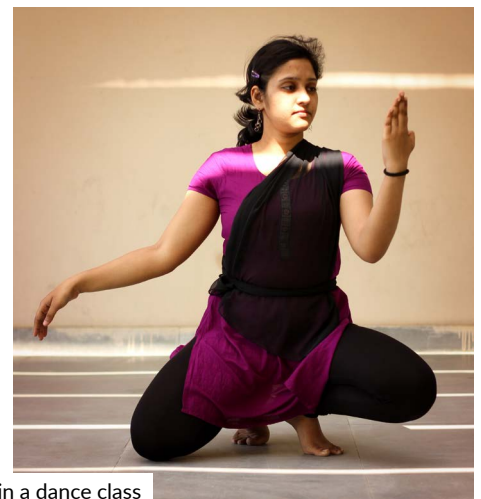
Inchurkar, Piyush, and Prakash Kumar. "Design for Cognitive Development of Kids: A Case Study of Developing Interactive Toy for Small Children." In *International Conference of the Indian Society of Ergonomics*, pp. 719-725. Cham: Springer International Publishing, 2021.

Caste, space, and schooling in nineteenth-century South India

In her paper, Dr. Divya Kanan, Assistant Professor, Department of History and Archaeology, examines the spatial and temporal dimensions of varied schooling agendas for poor and oppressed caste children and adults in the princely state of Travancore in nineteenth-century



Pedagogical process in a dance class



colonial south India. In her paper, she argues that schooling campaigns for the poor perpetuated hierarchized, caste-inflected childhood norms and made multiple marginal children in local society. The report draws upon British Protestant missionary archives to highlight the unstable and violent geographies in which children of subaltern castes navigated the sphere of modern schooling in colonial Travancore and the constitutive function of schools in the making of marginal childhoods.

Kannan, Divya. "Caste, space, and schooling in nineteenth-century South India." *Children's Geographies* 20, no. 6 (2022): 845-860.

3 University Operations

Academy of Continuing Education

At Shiv Nadar, the Academy of Continuing Education (ACE) recognizes that learning is a lifelong endeavor that also involves some unlearning. The students at ACE are encouraged to evolve into meta-learners, which brings forth the ability to learn new skills and quickly adapt to new environments. ACE aims to facilitate best-in-class knowledge, practices, and skill development offerings to the growing ecosystem of lifetime learners and leaders within and outside the University. The Academy has a strong foundation in a student-centric, multidisciplinary, and research-focused pedagogy, and the uniquely crafted programs and innovative delivery models which offer students the best of the University's rich intellectual resources. ACE provides learning opportunities through certificate and degree programs and experiences the blended deployment of in-class and experiential learning using the latest instructional technologies, such as interactive e-learning and tutoring, gamification, simulations, and learning apps.

Innovation and Entrepreneurship Policy (IEP)

At Shiv Nadar, we have an Innovation and Entrepreneurship Policy (IEP) covering various aspects of innovation, start-ups, and entrepreneurship management. The IEP is a guiding framework to envision an educational ecosystem that leverages supportive resources, enabling infrastructure and facilitating policies towards creating an environment to enhance the spirit of innovation and entrepreneurship among the University's faculty, staff, and students. The IEP outlines the pre-incubation, incubation, and financial support facilitated by the University to its members for fulfilling their entrepreneurial aspirations.

Financial Aid to deserving candidates

The University is committed to helping deserving students such that finance is a smooth process in the educational journey of exceptional students. Based on eligibility criteria, the University offers Financial Aid and Scholarships to students selected through the specified admission criteria(s) in undergraduate programs, covering

part or entire academic and living expenses.

Skill development program

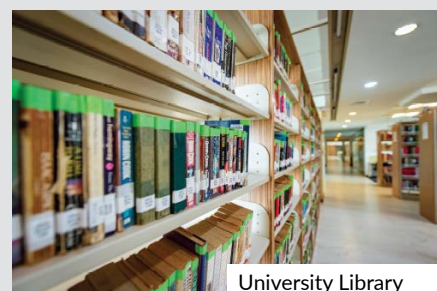
At Shiv Nadar, we are committed to educational opportunities for all people regardless of gender, race, religion, or ethnicity; hence the University has undertaken a **Skill Development Pilot Program**. The program imparts critical life skills to the children of the University's contractual staff residing in nearby areas and enhances their prospects for a brighter tomorrow. The faculty and students at the University volunteer to impart classes to children to improve their computer and language skills.

Access to University Library

The University hosts many residential workshops and training. All participants from schools and other universities can access University Library and its resources during this time. The candidates selected by the Atal Incubation Centre (AIC) and not otherwise enrolled in the University also have access to many resources, including laboratories, studios, a library, and guidance from faculty.



Academy of continuing education



University Library



4 Partnerships

Dance education in Shiv Nadar Schools: A pilot study

Aadya Kartikar, Associate Professor, Department of Art, Media, and Performance is collaborating with Dr. Matthew Henley, Arnhold Associate Professor, EdD Program in Dance Education, Teachers College, Columbia University. The research project addresses the lack of a teacher-training program for dance educators in k12 schools in India and aims to understand the specific needs of the k12 educator from which a culturally relevant training program can evolve.

A commitment to encouraging global citizenship through education

At Shiv Nadar, [international partnerships](#) through research and teaching collaborations are essential in delivering its overall strategic aims. As a leading research-led institution, we are committed to building a global presence through activities that transcend national boundaries and allow us to engage with students and researchers at like-minded institutions spanning geographies. Towards this many [MoUs are signed](#) to consolidate this relationship.

A second example of our partnership approach is our participation in UNLEASH 2022, a global SDG

platform in Mysuru, India. It brought together over 1200 participants worldwide to participate in a global hackathon on the thematic area Source to Sink. As part of this collaboration, the Shiv Nadar IoE hosted the first-ever campus hackathon in India, bringing together participants from several partner organizations.

A case study of the impact of digitization of content

Dr. Simanti Bandyopadhyay, Associate Professor, School of Management and Entrepreneurship, collaborated with [SHIKSHA²](#) and undertook a case study on the SHIKSHA initiative in Uttar Pradesh in Northern India to understand how impactful the technology-integrated pedagogy through public-private partnerships (PPP) in education has been on the learning outcomes of students. The study did a content analysis to understand the processes adopted by the SHIKSHA initiative. The digitized curriculum was contextualized by students' backgrounds, which aligned with constructivist learning theory. The study also did a quantitative analysis to estimate the impact of pedagogical practices on learning outcomes. For example, in research, the average scores of schools with SHIKSHA interventions were higher by 58 percentage points. Interestingly, under SHIKSHA, students were given 15 days for

course revision with the active participation of the teachers. The average scores after these revisions improved compared to the scores before revisions. Thus, suggesting that digitization of content by the government or through PPPs can help boost effective learning.

Bandyopadhyay, Simanti, and Aishna Sharma. "Technology-integrated Pedagogy, Learning Outcomes, and Retention: Can Public-Private Partnerships Play a Role in Primary Education in India?" *Studies in Microeconomics* (2022): 23210222221111653.

Collaboration for Education

Dr. Subhashim Goswami, Assistant Professor, Department of English, in collaboration with Head Start Educational Academy, Bengaluru, conducts student workshops. One of the workshops was to work with an artist pedagogue titled 'Research for Arts' on November 16, 2022. This was to think of how artists can engage in research to create art. Another workshop, titled 'Introspection and Dialogue,' was held on November 19, 2022, to work with the school's humanities and social science teachers to reflect on teaching the social sciences and humanities curriculum in schools.

Dr. Goswami has also collaborated with Ranga Shankara Theatre, Bengaluru, as part of the AHA International Theatre Festival for



UNLEASH 2022



²<https://transformingeducationsummit.sdg4education2030.org/unesco-world-education-leaders-call-environment-education-and-digital-access-be-part-learning-all>

Children, held on June 29-30, 2022. The seminar on 'Theatre for Children: Content, Intent, Rationale' brought together theatre practitioners, educators, writers, and other artists on one forum to discuss questions of arts and pedagogy, especially related to young audiences.

In another forum, organized by the Association of Social Anthropologists of the UK and Commonwealth ASA 2022 conference, titled 'Anthropology Educates,' Dr. Goswami was a part of the unique long-term workshop. Held from March 14 - November 7, 2022, he presented his work in a studio discussion titled, 'Anthropology and Theatre for Toddlers.' He contributed a piece, 'Toddler theatre looking glass for Anthropology,' to a volume emerging from the conference.

Shiv Nadar IoE collaborates with The Habitat Trust (THT)

Shiv Nadar Institution of Eminence and The Habitat Trust (THT) have signed a Memorandum of Understanding to contribute to the capacity building of students. Towards this, the University students have the opportunities to do internships and volunteer at THT, and the employees at THT have a chance to pursue Ph.D. at Shiv Nadar IoE.

Partnerships around Water Science and Policy program

Shiv Nadar IoE firmly believes that partnerships are vital to advancing a critical cause. We have developed deep relationships with



Water Science and Policy students on field



many organizations to make this a movement with impact and velocity. For example, our program on Water Science and Policy program was supported by the Government of India, an international body (the International Development Research Center), and many NGOs and civil society actors. The program had mandatory training on the field

for a semester, so it became an excellent opportunity for students to learn and receive training amidst the local communities and cultures, guided by our partner NGOs, such as Development Support Center (DSC)³, Gram Vikas⁴, Samaj Pragati Sahayog (SPS)⁵, Advanced Center for Water Resources Development and Management (ACWADAM)⁶.

³Based in Ahmedabad, it provides knowledge-based support to institutions involved in promoting sustainable livelihood and participatory natural resource management.

⁴A NGO based in Odisha, works to enable rural communities to lead dignified lives. This is done by building the capabilities of village communities, strengthening community institutions, and mobilizing resources.

⁵One of India's largest grass-roots initiatives working towards women empowerment, water and livelihood security.

⁶A not-for-profit organization, aims to establish groundwater management agenda in India with a mission to demystify ground water science and strengthen hydrogeological capacity of institutions working in water sector in India.

Shiv Nadar Institution of Eminence is fully committed to the UN Sustainable Development Goals (SDGs). We have embraced a four-pronged strategy for SDGs through **teaching, research, our core institutional practices, and partnerships.**

SHIV NADAR

INSTITUTION OF EMINENCE DEEMED TO BE
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