SDG-4 Annual Report 2019-20

4 QUALITY EDUCATION

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

Report of VIT-Vellore Campus

The vision of the Vellore Institute of Technology (VIT) is Transforming life through excellence in education and research. The Mission of the University are as follows: Excel in education, grounded in ethics and critical thinking, for improvement of life. An eco-system to extend knowledge and solve critical problems through happy, accountable, caring workforce and students. Active collaboration with national and international industries & universities for productivity and economic development. Service to the region and world through knowledge and compassion. VIT's contributions to provide Quality Education in-line with SDG04 are given below.

Ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university

VIT Group of Institutions offer 64 Undergraduate, 35 Postgraduate, 16 Integrated Programmes, 2 Research programmes and 2 M.Tech Industrial Programmes. In addition to full-time Ph.D Degrees in Engineering and Management Disciplines, Ph.D. in Science and Languages and Integrated Ph.D. programmes in engineering disciplines. Research Centers, integral of respective schools encourage inter-departmental collaborative participation of students in exciting research projects. A student admitted should register in one of the schools depending on the degree/ programme selected to pursue. 28421 male and female students were admitted during the academic year 2019-20 (https://vit.ac.in/files/AQAR2019-20/index.html). Equal access to male and female candidates is provided in all programs. Male to female percentage is found to be **74% : 26%** in VIT-Vellore Institute of Technology.

VIT-Support the Advancement of Rural Students (STARS)

"A Child should never be deprived of quality education owing to poverty. This forceful thought in my mind became the seed that gave birth to the innovative STARS Scheme". **–** Dr.G.Viswanathan, Chancellor, VIT- Vellore

STARS scheme implemented in VIT enhances the rural students' quality of life. For children in rural villages of Tamil Nadu who grow up in difficult circumstances, VIT has become more than a place of academic instruction. It is a home away from home where they feel safe and happy, surrounded by caring Professors / Proctors who not only give them the education and skills to face the future, but also become their emotional pillar.

Since 2008 rural students of Tamil Nadu have been admitted through STARS scheme. Each student's story is an inspiring story of change. Daily wage labourers and domestic helpers find it difficult to educate their children due to their unstable income and difficult living conditions. Their children who are academically brilliant, continue to live their lives in poverty like their families or settle down to basic jobs which satisfies neither their basic needs or their intellectual hunger While many people in our society ignore these hard facts and go ahead with their lives, VIT Stands tall as it takes these children in its fold through the STARS scheme. VIT STARS Scheme helps these students from under privileged background to achieve what they deserve by giving them **100% fee waiver for their academic and hostel facilities including basic medical expenses.**

The transition to higher education, which is particularly difficult and expensive for rural youth, requires support. To meet this concept in reality, VIT launched this social innovation scheme. Based on their 12th std. marks, one boy and a girl from rural Government Higher Secondary schools in the different districts of Tamil Nadu are chosen under this STARS scheme. Most of the selected meritorious students are first generation graduates from the below poverty line families. 68 students are admitted during the academic year 2019-20, and 56 of them are first generation graduates in their families.

VIT stands proud in giving high-quality education to the rural students of Tamil Nadu and provide the doorway for a good career, better social status and most importantly, fine tune them to be responsible citizens. (https://vit.ac.in/stars-support-advancement-rural-students-0)

In a function marked to felicitate headmasters of 69 Government and aided schools in Vellore district, which secured 100 percent pass percentage in class 10 and 12 Government exams, Dr. G. Viswanathan, Chancellor of VIT presented the headmasters with a citation and cash award of INR 5,000 during a function. VIT also provided tables and chairs worth INR 22,00,000-00 free of cost to Government schools in Vellore district.

Substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship

The Career Development Centre of VIT plays an integral role in creating the illustrious placement record of VIT. It ensures smooth functioning of the placement activities in the campus. The centre further facilitates training activities of the students and makes sure they get placed in the best of both national and international companies. 4914 students are placed in 739 companies with an average CTC of INR 7,13,000-00 (https://vit.ac.in/career-development-centre).

VIT Technology Business Incubator (VIT TBI) helps students to start technology start-up businesses with all the necessary resources / support that the start-up needs to evolve and grow as a mature business. VITTBI was started with initial grant support from the Department of Science and Technology (DST), Ministry of S&T, Govt. of India has become a multi-stakeholder organisation.

VITTBI has active programs supported by DST, BIRAC (BioNEST) and MeitY (TIDE 2.0) incubation centre. VITTBI supports Innovative Technology start-ups with access to knowledge, funding, infrastructure, mentoring and network (https://vittbi.com/index.php). VITBI organized a 3-day Entrepreneurship

Awareness Camp between 11th and 13th September 2019. About 120 students participated and benefitted from the sessions delivered by entrepreneurs and industry experts. The following table shows some of the training activities conducted by VITTBI during the year 2019-20.

Sl. No.	Name of the Resource Person	Topic	Event Date
1.	Mr. Badrinath Speciale Invest	Investment offering from Speciale Invest that invest in AI, ML driven SaaS Enterprises, Bio-Sciences, Cyber-security, EV & Autonomous Vehicles, Health-tech, IOT, Med-tech and Space-tech	25-6-2019
2.	Dr. Suresh Nair Founder Design Alpha	Design for Manufacturing	8-7-2019
3.	Mr. Rakesh SINE, IIT Bombay	BIRAC Biotechnology Ignition Grant	12-7-2019
4.	Dr. Thillai Rajan IIT Madras	The venture on YNOS to support entrepreneurs: A perfect tailor-made solution for early stage entrepreneurs to multiply the chances of fund raising.	15-9-2019
5.	Ms. Salma Moosa Co-Founder of Start-ups Club	The next Unicorn start-up could be you	26-9-2019
6.	Mr. Venkatesan BioNEST Centre	PCB Designing Steps and Manufacturing Process	17-6-2020

VITTBI conducts Entrepreneurship Awareness Camps. The Entrepreneurship Awareness Camp is a 3-day non-residential programme covering the nuances of entrepreneurship. The sessions are designed in line with the guidelines provided by the supporting organizations. The sessions are interspersed with lectures, interactions, panel discussions and experiential learning workshops. About 75 degree and diploma students from different disciplines of Engineering, Science and Management participate in these camps. These camps are open to students within VIT University and other institutes in the region.

VIT encouraged the following 3 graduating students of 2019 batch by givng a grant of INR 5,00,000-00 for accelerating their venture creation activites.

1. Anubahv Mishra (FindMind Analytics Pvt. Ltd.)
2. Charmi Pabari (Punar Rehab Solutions Pvt. Ltd.)
3. Pranav Kumar (Illuminify Technologies Pvt. Ltd.)
   https://vittbi.com/docs/newsletters/VIT-TBI-Oct-2019-Newsletter.pdf

Ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture's contribution to sustainable development
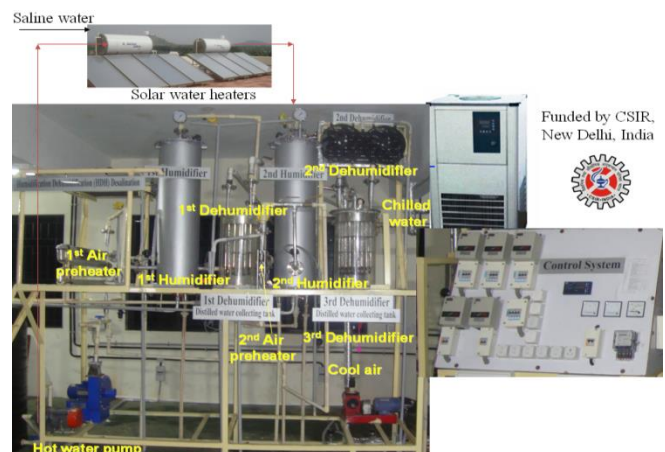
VIT adopts eco-friendly and green initiatives to promote sustainable practices in its lush and verdant campus. A few remarkable efforts include energy conservation, water conservation and waste water recycling. The in-house transportation policy and the extensive research programmes are other sustainable initiatives to uphold green values.

Having adaptive thinking and adaptability in relation to environmental context and sustainable development is one of the Program outcomes of VIT. Students are trained to work for sustainable development. One of the Schools of VIT has a vision to be a leader in imparting world class education leading to nurturing of scientists and technologists of highest caliber who would engage in sustainable development of the globe. The following subjects are taught to students for imparting knowledge and skills needed to promote sustainable development.

Sl. No.	Subject Code	Name of the subject
1.	MGT1006	Environmental and Sustainability Assessment
2.	CHY1002	Environmental Sciences
3.	MEE3999	Technical Answers for Real World Problems (TARP)
4.	MEE1011	Renewable Energy sources
5.	MEE2052	Sustainable Energy
6.	MGT1049	Sustainable Business Model

CO_2 Research and Green Technologies Centre of VIT is a unique advanced research laboratory, to carry out research on carbon capturing and utilization (CCU) with a focus on green energy technologies development. The laboratory has been set up keeping in view the growing significance of Carbon Capturing and Storage (CCS) in recent times. The main objectives of the centre are:

- To develop technologies for CCU
- To develop sustainable and renewable green energy technologies
- To work on waste heat recovery, energy, water conservation and waste management.
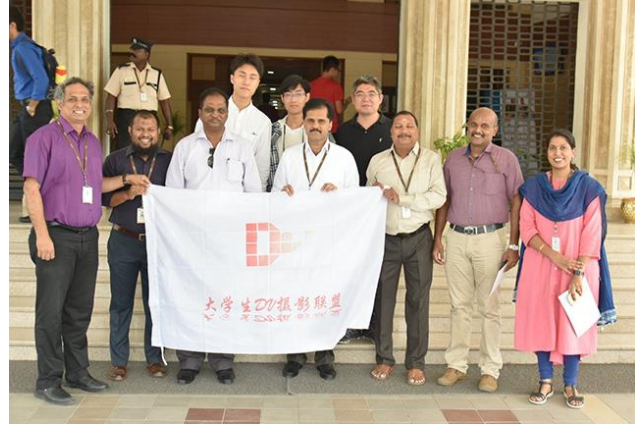
In order to convert academic research into useful technology, the centre has undertaken a number of technically viable projects that include both bench scale and pilot scale projects. Technical solutions are developed for several teething problems at the centre. New alternates and modifications are implemented towards continuous operation.

Students, representing various cultures were part of the parade to showcase the country's diversity during cultural events conducted by VIT. About 15 to 20 different cultures are showcased. Students represented various States as the campus itself has students from every State of India. Students dress up in the respective State's traditional attire, showcasing the culture's uniqueness by way of dance and music and also through martial arts. Students are trained to appreciate the culture of students from other states or countries which promote the culture of peace and contribute to sustainable development.

With over 350+ international MoUs across the globe, Vellore Institute of Technology has a strong international presence abroad. The International Relations office of Vellore Institute of Technology with institutes and universities all over the world helps the students to explore diverse environments and various cultures across the world. International Relations team help the institute to connect students and faculty with peers many foreign institutions abroad. The international partner universities are spread in various countries throughout the world – USA, Canada, UK, Australia, Asia-Pacific, Europe, Middle East, Africa, and South America.

VIT also offers an [International Transfer Program (ITP)](#) where the students can opt for studying at a partner university after completing a minimum of 2 (two) years of their bachelor's degree in VIT. The students can opt for International Transfer Program in partner universities in the USA, UK, Belgium, Sweden or Australia. This international program is offered to Engineering streams. The International Relations of VIT also brings in over 175+ faculty from foreign universities to take up teaching and research assignments at VIT. International programs don't end here. There are summer and winter internships available all over the globe for the students to earn a fellowship, valuable work and study experience.

Substantially increase the supply of qualified teachers, including through international cooperation for teacher training in developing countries, especially least developed countries and small island developing States

A Five Day International Training Programme on Community Based Disaster Risk Reduction (CBDRR)- Competency Programme for Universiti Tenaga Nasional (UNITEN), Malaysia and Tenaga Nasional Berhad, Malaysia, from April 22nd to 26th 2019 organised by CDMM, Vellore Institute of Technology, Vellore 632014, India

VIT - Vellore and Shandong University of Technology (SDUT), Zibo, China, jointly organized 2nd International Summer school on "International summer school on Internet of things and Data Analytics" during 1-13 August 2019.

26 students and a faculty member from SDUT have participated in this program. This summer school combines lectures and hands-on exercises with the use of open-source software tools available on IoT techniques with the small electronic device embedded in objects, machines and things that connect to wireless networks and sends and receives data. They also have got an exposure to techniques and processes of data analytics automated into mechanical processes and algorithms that work over raw data for human consumption.

PREAMBLE

Vellore Institute of Technology (VIT), for the past 30 years has made a mark in the field of higher education in India imparting quality education in multi-cultural ambience, intertwined with extensive application oriented research. VIT was established with the aim to provide quality higher education on par with international standards. It persistently seeks and adopts innovative methods to improve the quality of higher education on a consistent basis. VIT strives:

a) To maximise industrial connectivity and to create centres of excellence in niche areas of research

b) To enrich technological and managerial human capital nurtured in a multicultural ambience

c) To provide a common platform for the agglomeration of ideas of personnel for various walks of life for learning enrichment

Policies / Major decisions taken regarding SDG-4

STARS –Scheme for the Advancement of Rural Students

STARS- It is a scheme for supporting and enhancing the quality of life of rural students undertaken by the great philanthropist and Chancellor of VIT, Dr G Viswanathan in the year 2008. VIT-STARS scheme helps the students from under privileged background to achieve what they deserve by availing 100% fee waiver for their academic and hostel facilities including medical expenses.

Academic Details pertaining to the SDG (Launch of program, inclusion of course, modifications in syllabus etc..)

The B. Tech, M. Tech, and PhD research programmes carried by the various schools in the campus lay enormous importance on quality education. In a quest to achieve that, practical skills are given much priority. The majority of the subjects are linked with project based learning (PBL) which bridges theory and laboratory practical including a wide variety of technology and their applications.

Major events organised:

a) Some of the events like conferences, workshops and seminars organised by various schools at VIT Chennai towards imparting quality education during the academic year 2019-20 are listed below:

S. No	Name of the Event	Date	No of Participants
1.	Workshop on Outcome Based Education	31.01.2020	101
2.	Seminar on Innovative Methods in Teaching by ASC	19.02.2020-19.03.2020	60
3.	Seminar on Design Thinking: Introduction and Application in Education by ASC	04.03.2020	65
4.	FDP on Technology for Education	11.03.2020 - 13.03.2020	45
5.	Outcome Based Education Workshop by ASC	14.03.2020 – 15.03.2020	400

Workshop on Outcome Based Education:

A workshop on outcome based education was conducted by the office of ranking and accreditation with the following objectives:

1. The teacher needs to fix the outcome, the parameters on which the lecture should be planned.
2. Importance of program specific outcome (PSO), program outcome (PO), and course outcome (CO) should be known to the faculty members and students as well.
3. Faculty members should strive to develop learning resources like video files, audio files, and open source software.
4. Faculty members should work towards sustained innovation and quality education.
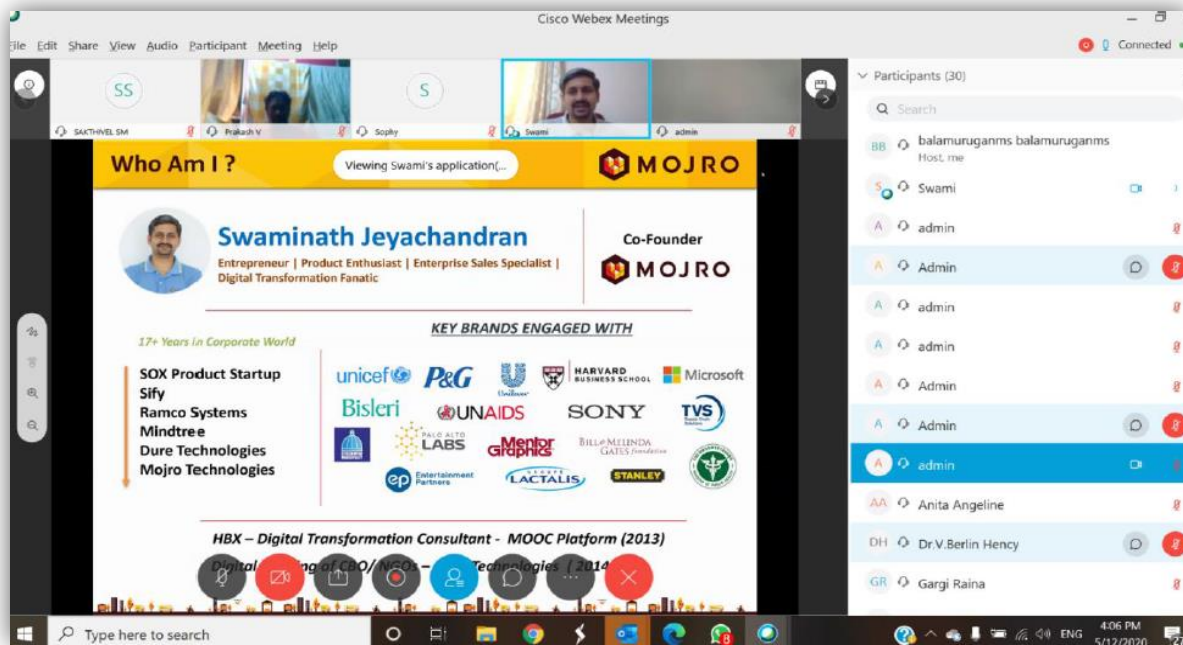
Dr. A. Brintha Therese, Deputy Director, Ranking and Accreditation felicitating the speakers

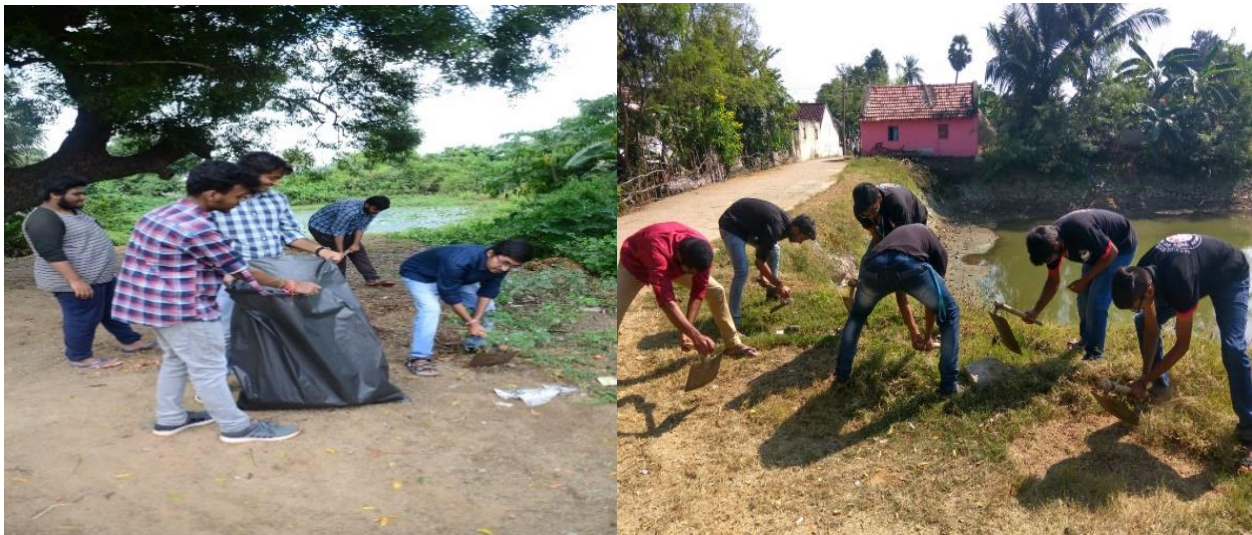**Lecture by resource person on Outcome Based Education (OBE)**

Workshop on MOOC Preparation

A workshop on MOOC preparation rendered the participants a way to explore the usage of online courses for learning, teaching, and professional development and also provided a gateway to build their capability to plan, design, and implement online courses that are in tune with international standards.

Water Management Educational Opportunities

It provides educational opportunities for local communities to learn about good water management. This program was conducted by NSS volunteers of VIT, Chennai. This awareness program on water conservation was conducted for the villagers around VIT Chennai on 15/10/2019. They also extended their services to clean plastic and other toxic materials in the village areas.

Water Conservation Awareness Programme by NSS

Volunteers of NSS cleaning the **water bodies of plastic and other toxic materials from Kayar Village near Thiruporur** with the support from VIT Management

School of Civil Engineering along with Estate office organized free training program for VIT Chennai construction workers on "**Water conservation in construction site**"

National Level Workshop

A national level workshop was conducted on "Total Organic Carbon Analysis of Solid and Liquid Samples" in association with M/s Swan Environmental Pvt Ltd, Hyderabad on 28th February, 2020 at School of Civil Engineering, Vellore Institute of Technology, Chennai to educate local, regional, national and international communities about clean water.

Thus VIT strongly inculcate quality education to students in all aspects ranging from theoretical knowledge to all practical skills and deployment of their technical skills to real world issues.

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