BEST PRACTICE-1

Title of the practice: Strategizing Technology deployment for community needs through student training and engagement in community projects.

Objectives of the Practice:

Don Bosco organizations across the globe have been training young students for life and livelihood. Therefore the VISION statement of DBIT mentions about transformation of students into SOCIALLY CONSCIOUS CITIZENS who promote sustainable technologies. To realize this vision the institute has devised a strategy to formally engage students in activities that contribute to this vision.

1. To sensitize the students to the needs of the community.

2. To engage deeply with the community to understand their culture and practices and help identify their needs and their challenges.

3. To learn the principles of innovative problem solving.

4. To deploy latest technology for benefit of the community.

The Context:

With the advent of Artificial intelligence (AI), Machine learning(ML), Internet of Things (IoT), there is a clamour amongst engineering students to learn these new age technologies and achieve a fair degree of proficiency in deploying them. It is observed that though these technologies have the ability to be inclusive and serve all sections of society there is an overwhelming tendency to use it for enhancing the comforts of the urban population. The institute took the initiative to offer a course in Development Engineering for the final year UG students of all branches to formally train them in addressing community needs through the use of technology.

During COVID the digital divide was exemplified with many children from underprivileged sections of society missing out of learning due to the absence of devices for online learning. Having access to new age technology and thereby building aspirations to compete in an increasingly digital world is a pipe dream for many such children. DBIT planned a programme to train the students in technology through the CrEAST programme. The curriculum was designed and the pedagogies identified and the proposal was forwarded to corporates for funding under CSR. Larsen and Toubro have agreed to support this endeavour through their CSR funding

The Practice:

· In order to sensitize the students to the needs of the community, DBIT envisages to establish an inclusive center for Creative Exploration and Advanced Skilling in Technology (CrEAST) within the premises of Don Bosco Center of Learning to induct girl students from underprivileged backgrounds and students with learning disabilities (LD) in Science, Technology, Engineering & Mathematics (STEM) through experiential learning. The center envisions to impart this training through a structured curriculum and appropriate pedagogies to provide hands-on training and

practical skills. The purpose of the program is to make the participants future ready & motivate them to take up a career in STEM. The curriculum has been prepared by the faculty of DBIT and all sessions will be delivered by the faculty along with student interns.

DBITSevatech is an organization founded by the students and faculty of DBIT, which is created with a vision to "Improve Lives Through Technology". It aims to give technical support to NGOs who intend to upgrade themselves to a digital platform.

Students are also motivated and trained to participate in competitions like Avishkaar,, Tata Crucible, Smart India Hackathon which all have community problem solving at their core. Students are also encouraged to select community problems as part of their final year project

In the final year atleast 72 students opt for the elective subject of Development Engineering which focuses on understanding developmental issues and technology deployment to address the issues. Students read about organizations working in the development space and participate in presentations and in-house competitions.

·   Experts are engaged to deliver talks to students, field visits are also organised but due to the COVID-19 pandemic this year it could not be done.

Projects are carried out by final year students on solving community problems. These projects are exhibited during INNOVEX, the annual project competition, and the students are encouraged to convert their ideas into business proposals and start-ups.

Evidence of success:

·The initiative of DBIT to bring about awareness and interest among school students about STEM courses in the form of CrEAST was appreciated by the school managements and they were open to discuss the training programmes that would be beneficial for the students with Learning disability.

Three students of computer department along with their faculty mentor worked on a project to develop the website for an NGO called the Shantighar. Shantighar is a Shelter home for battered women and children who are in crisis and helps the women and children with providing them services and guidance.

Another initiative was development of official app of Young Women's Christian Association (YWCA) of Bombay.This enabled them to spread awareness about the workdone by them and also obtain registrations for events held by them.

At least 20%- 25% of the final year projects are related to solving community problems by deploying the latest technology

Problems encountered

Due the COVID-19 restrictions there were repercussions on all academic activities, including field trips and fieldwork.Engaging with the community and winning over their trust is vital to working with them

Community projects have a long gestation period and cannot be completed as part of a year- long academic project

Students need to have a lot of commitment and passion since there are no quick fixes for community problems

Projects need to be carried forward for a couple of years before the solutions are implemented

Resources required

· Adequate manpower is required for surveys, sensitizing the community, monitoring the deployment and capturing the impact.

Resources are required for travel and stay with the communities

Students may need to spend some time away from their academic classes

Remuneration to experts to judge competitions, deliver expert talks

Cost of field visits:

Most of the communities considered for the above activities are in the vicinity of the institute therefore the costs incurred were nominal.

Title of the practice: Awareness of Innovation and Entrepreneurship amongst students and Faculty members of DBIT

Objectives of the practice:

To realize this vision the institute has devised a strategy to formally engage students in activities of innovation and entrepreneurship.

1. To create an entrepreneurial eco-system in the Institute.
2. To inculcate spirit of entrepreneurship amongst students and faculty
3. To provide necessary training and awareness to take up entrepreneurial activities.
4. To interact with successful entrepreneurs to motivate students and faculty
5. To mentor students and faculty to convert ideas into marketable products

The Context:

This is the initiative to promote the zeal to take up entrepreneurship as a career among the students and faculty at DBIT. Startup is a buzz word in India today and many hackathons are being conducted across the country. Due to the current pandemic, Hon. PM Shri Narendra Modi has given a call for Atma-Nirbhar Bharat, hence we, as a nation, are on verge of resuming our original entrepreneurial mindset. Also, entrepreneurship and startup are at the core of New Education Policy 2020. At DBIT, we have adopted the National Innovation Startup Policy (NISP) by the Ministry of Education as it is and have been conducting pre-incubation activities for quite a time now and our flagship programme in this genre is Make-A-Thon. We have successfully conducted the two editions of Make-A-Thon with great pomp and grandeur.

The Practice:

1. Students are engaged in mini-projects which may end up in starting up.
2. In the second year of engineering students are formally taught innovation techniques through InnovatioNext software and trained to identify problems and to devise innovative and creative solutions. This course is not a part of the formal curriculum laid down by the university
3. In the third year of engineering students are motivated and trained to participate in competitions like Chhatra Vishwakarma, Tata Crucible, Smart India Hackathon.
4. Experts are engaged to deliver talks to students on innovation, startup and entrepreneurship.
5. Field visits are organized to nearby incubation centres.
6. We have launched successfully conducted our flagship programme in startup and entrepreneurship, Make-A-Thon.
7. We have conducted Any-Body-Can-Do-Entrepreneurship (ABCDE) training programme for students and faculty
8. Our institute is on mission of training all our faculty members in Startup and Entrepreneurship and have stated faculty entrepreneurship training programme.

9. Regular participation in Atal Ranking of Institutions on Innovation Achievements (ARIIA) since its inception.
10. The final year projects are exhibited during INNOVEX, the annual project competition, and the students are encouraged to convert their ideas into business proposals and start-ups.
11. An in house MIS is being developed as a product which is used to capture staff and student attendance and many other features required in support of Academic
12. An in-house innovation competition," Solutions for Smart City" was conducted for the final year students

Evidence of success:

1. Students winning competitions like Smart India Hackathon which demonstrates their ability to ideate, think out of the box.
2. Our students have been consistently winning prizes in SIH since 2017.
3. Successfully conducted two editions of Make-A-Thon.
4. Presence of very active E- Cell with plethora of innovation, startup and entrepreneurship programmes round the academic year.
5. Student internship in Startups.
6. E-cell newsletter, "Teaching Marco".
7. Creation of position of Dean for Innovation and Entrepreneurship
8. Adoption of DBIT Innovation and Startup policy drafted on the basis of NISP
9. Constitution of NISP Implementation Team
10. Constitution of Institution's Innovation Council (IIC) on the guidelines of MIC (Ministry of Educations' Innovation Cell)
11. The daily login and logout details captured by the MIS is one of the evidence.

Problems encountered

1. Absence of budgetary provisions for Innovation and Entrepreneurship (I&E) activities.

2. Students consider hackathons as competitions only and participate with a goal of winning a prize or certificate and not to startup.

3. Students tend to lose interest in (I&E) once out of campus.

4. Difficulties in seeking Government Grants.

5. Absence of I&E infrastructure on campus

6. Providing Industry Mentors during SIH and taking care of the expenses of Industry experts during the SIH.

7. Customization required when the system of the college changes and new additions are made to syllabus structure: *MIS changes due to Mumbai university criteria*

Resources required

1. Budgetary provisions for Innovation and Entrepreneurship

2. On campus Incubation Centre

3. Availability of mentors to groom the students and take forward their start-up ideas.