

Best Practice 2

1. Title: Innovative Projects Implementation and its Impacts:

2. Objectives of the Practice:

- To equip students with the skills required to meet the industry requirements by effective content delivery methods that foster outcome-based education
- To give students hands-on experience in core technical areas and allied fields to complement the theoretical subject knowledge learnt in the classroom.
- To familiarize them with machines, tools, software and other equipment in their field of interest and thus define their future career path
- To achieve well-defined institutional program outcomes, program-wise educational objectives & specific outcomes and also course-wise outcomes defined by the affiliated university

3. The context:

In the present competitive world of technical education, it certainly requires to prepare students to meet the desired outcomes. In the past few years, teaching-learning processes have witnessed a shift from knowledge-based to skill-based and need-based education. The institute has a deep conviction in improving the students' skills to groom industry-ready in all aspects.

Institute has been implementing the practice of outcome-based education since the academic year 2013-14. The program outcomes are practiced under the guidance of experts and also as per the norms of the statutory bodies while considering current societal and industry expectations.

The mapping of CO-PO is carried out to find out the gaps in the curriculum. The gaps are identified in the mapping process.

- ### **4. The Practice:**
- One of the gaps evident from the mapping process is lack of opportunity to conduct course-wise projects. To bridge this gap to an extent, the institute has decided to encourage students in the right direction by conducting semester-wise 'Innovative Projects'. A teacher is assigned to a group of students to mentor their project work. This unique practice involves sophomore to final year students and thus gives them a platform to technical skills, ethics, communication, team work, project management, financial management and lifelong learning. Students explore new ideas and prepare innovative projects and enthusiastic to display them on the day of the Expo.

The total number of Innovative projects - Year wise

Year	2020-21	2019-20	2018-19	2017-18
Innovative Projects	326	388	383	296

For example, the CO–PO attainment levels of the course namely “**Web Technologies**” are initially at a low level. The attainment level of the Web Technology course has changed from low to high level after conducting Innovative projects and Expo.

S.No.	Web Technologies - Course Outcomes
304.1	Gain knowledge on client-side scripting, validation of forms and AJAX programming
304.2	Understand Server-Side Scripting with PHP language
304.3	Understand what is XML? and how to parse and use XML Data with Java.
304.4	To introduce Server-side programming with Java Servlets and JSP
305.5	Able to develop web based applications

Mapping Level framed/ targeted by HoD and faculty

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C304.1	3	3	3	2	2	3	2	1	1	1	2	2
C304.2	3	3	3	2	2	3	1	2	2	1	2	2
C304.3	3	3	3	2	3	3	1	2	2	1	2	2
C304.4	3	3	3	2	3	3	1	2	3	3	3	3
C304.5	3	3	3	2	3	3	2	2	3	3	3	3
Average	3	3	3	2	2.6	3	1.6	1.8	2.2	1.8	2.4	2.4

Attainment Obtained before Implementation of Innovative Projects and Expo

Programme outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C304	2	2.5	2	1	1.2	2	0.8	0.8	1	1.2	1.2	1.4

Attainment Obtained after Implementation of Innovative Projects and Expo

Programme outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C304	2.5	2.5	2.7	1.5	2.2	2.5	1.3	1.4	2	1.6	2.2	2

5. Evidence of success:

- The practice resulted in internships from companies to students as they gained experimental and practical exposure by working on innovative projects.
- This experience augmented to their theoretical knowledge motivated to work mini and major projects on recent technologies in the final year.

- The students could also prove themselves well in placements by bagging opportunities in core companies.
- Published Research papers
- The students worked on inter-disciplinary projects which exposed them to gain knowledge in multi-disciplinary areas.
- CO attainment levels are calculated every semester and in the recent past there is a marked improvement from low and moderate to moderate and high levels.

6. Problems encountered and resources required:

- It has been observed that training is to be imparted for newly recruited faculty members till they get used to this practice.
- Lack of technical support at lower level.
- Tie-ups and MoUs with industry
- Lack of advanced labs in 2017-18