

Best Practices-I

1. Title of the Practice: Inculcate a Research Culture among Faculty and Students.

2. Objectives of the Practice

- To provide an exposure to recent research trends in various engineering disciplines and fix their career goals.
- To motivate the budding engineers to forecast the present and future problems of the technical fields and provide optimal solutions.
- To bridge the industry-institute gap.
- To encourage faculty members and students to publish their research articles.

3. The Context

Exposure to the research trends will enable the faculty members and the students to provide creative, innovative and optimal solutions for the real world problems. For developing novel methods and out of the box solutions in societal context to the practical problems using multi-disciplinary tools, a thorough understanding of the basic concepts is essential. There is a need for the institution to provide an ambience to meet such exacting expectations.

4. Practice

The management of SCE encourages all the faculty members to pursue research in their areas of specializations and publish their research articles. As the first step to provide an exposure to the recent research directions, an access is provided to the leading journals and transactions such as IEEE and ASME through digital library. Depending on the milestones achieved, the research scholars are recognized with cash awards. The idea of conducting “in-house final year projects” creates a possibility to see the results of their solution inside the campus itself. The internal competitions and Project exhibitions provide platforms for the students to develop their research-oriented thinking. This helps the students to participate aggressively in larger hackathons and research competitions like Smart India Hackathon, Solar/ non fossil fuel vehicle development projects etc. Today’s problems are multi-pronged. Therefore, they need a multi-disciplinary approach to finding solution(s). To bring objectivity into the judging of such multi-disciplinary projects are evaluated by technical experts from leading industries in that line or allied line of business. The inputs and feedback received from such experts go a long way in our students provide industry acceptable solutions. ECE, EEE & Mechanical Engineering departments could obtain “Anna University Recognized Research Centre” status based on the Facilities available in their respective PG research labs. Through

these research centres, registration of academic research works, Doctoral committee meetings, Comprehensive Viva – voce and Thesis Submission are being carried out. These research centres have also paved the way for Memorandum of Understandings with the Leading industries, Centres of Excellence to promote industry – institute partnership and Courses offered through value added laboratories such as NI Labview, eYantra.

All these have resulted in our student teams win laurels and recognitions in various competitions that are research based and expect the students to design thinking. Majority of these prizes are cash awards. The institution incentivizes such efforts by offering a cash award which is equal to that of the cash prize won by the team.

5. Evidence of Success

The number of research publications in the indexed journals from our institution is 420 as on June 2020. 33 research scholars have been awarded with the PhD Degrees through the AU recognized research centers by different departments. 34 scholars are pursuing research works in part time and full time mode under the supervision of our faculty members recognized as research guides by the affiliating university. In consecutive years, our students of EEE and MECH mentored by the faculty members won prizes and cash awards in All India level contests like M-Baja, E-Baja and National Solar Vehicle Competitions. Our batch of Students won the first prize - a cash award of Rs.1 lakh, in the MHRD's Smart India Hackathon contest of 2019 conducted at Dehradun. In 2020, three batches have been shortlisted by SIH team to attend the final level of Hackathon.

These are the irrefutable evidences for the fact that the institutions efforts at creating grass-root research thinking are bearing fruit.

6. Problems Encountered and Resources Required

Being affiliated to a university, students from our institution are expected to follow the traditional instructional method of learning and the common exam centric approach under a tight academic schedule. Hence it becomes necessary that value added courses on the emerging trends and tools could be conducted only after college hours or during semester holidays. For the development of prototypes of the research ideas, an exposure and thorough knowledge of the modern tools along with the abstract knowledge is required. Those budding aspirants have to balance between the usage of modern tools and the regular academics.