



KALASALINGAM

ACADEMY OF RESEARCH AND EDUCATION

(DEEMED TO BE UNIVERSITY)

Under sec. 3 of UGC Act 1956. Accredited by NAAC with "A" Grade



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BEST PRACTICES IMPLEMENTED BY THE INSTITUTION

Best Practice I

1. Title: Poornakalasha- Empowering youth by offering comprehensive and holistic education

2. Objectives of the Practice

The primary objective of this practice is to offer holistic education that can provide technical skills, creative and critical thinking, social-awareness and, to instill self-confidence among the students, which will enhance their problem-solving ability with the society in mind to meet SDGs 2,3,6 and 7.

3. The Context

Developing socially conscious technocrats is the need of modern India. Keeping this in mind, our curriculum offers various opportunities to the students. This includes:

- Creating an innovative ecosystem by establishing a conducive environment that promotes intellectual ability by partnering with industries to offer industry-oriented courses to make the students industry ready.
- Experiential learning through X-component introduced in the curriculum, lab-based projects, projects with societal relevance brought in by 'Community Service Project' (CSP). The students are also encouraged to work as multidisciplinary teams, where in students from more than one domain are encouraged to work on a single project.
- Physical training provided by motivating them to participate in NCC, sports, games and yoga.
- Co-curricular events organized by the departments which helps the students exhibit their talents.
- Mandatory non-credit courses (non-CGPA) allow the students to participate in various co-curricular and extra-curricular activities and help in the over-all development of the students.

4. The Practice

The institution has developed a unique system of education which provides ample opportunity for the students to develop critical thinking and to promote innovation. Opportunities are provided to participate in various activities that enhance inter-personal and leadership skills.

Few of the departments partner with few industries like IBM, Siemens, Nanochip and Automotive Research Association of India (ARAI). The industries participate in designing the curriculum, training the faculty and co-teach few courses. The institution also partners with TCS in designing curriculum for B.Sc. Computer Science, B.Sc. Information Technology and B.Com. programs.

All the students are encouraged to participate in the one-credit courses offered by the industry personnel. Besides this, the students also attend webinars and workshops organized with industry focus. Students also participate in various competitions, that instill creativity and promotes their intellectual ability.

The programs organized by IEDC has been culminated into nine student start-ups which are incubated by KARE. The facilities created at Kalasalingam Innovation Foundation (ACIC-KIF) helps the students to get an opportunity to work on real-world problems.

Both male and female students are motivated to enroll in NCC which cultivates discipline and promotes also participate in various sports activities. Students also won various medals in national and international competitions held at various places. All UG students should mandatorily complete Community Service Project (CSP) as a part of their curriculum. This provides experiential learning with a societal relevance. The successful completion of CSP results in product development, patent, publication and participation in project contests. Selected projects are sent for external funding like TN State Council for Science and Technology (TNSCST), EWB, etc. Also, students are encouraged to attend various awareness programs organized by Indo-Universal Collaboration for Engineering Education (IUCEE). A set of non-credit courses (non-CGPA) that are mandatory, for the under graduate students, provide an opportunity to the students to participate in various co-curricular and extra-curricular activities. This results in the over-all development of the students.

5. Evidence of Success

The knowledge and technical skills acquired by the students helped them in getting highly paid jobs in the industries or enrolment in higher studies. Based on the opportunities provided, the students have developed many innovative equipment or solutions. Some of the processes/products were patented. Students driven projects supported by DST through EDI resulted in the establishment of companies by the students with faculty as mentors.

Students participate in various technical events organized by the institution or other organizations and won prizes. The skills that they developed during the course of study helps them in getting either highly-paid jobs or higher studies in premier institutions.

Our students enthusiastically participate in NCC, sports and games which is evident by the laurels that they have brought to the institution by participating in various competitions. Our engineering students are actively involved in solving community-based issues through Community Service Projects. All projects culminated into product-based solutions or development of software-based solutions.

6. Problems Encountered and Resources Required

Implementation of any new initiatives would be a challenging task. Even though the opportunity is provided to all students, not all students are enrolled in programs such as industry oriented one-credit courses. Motivation is necessary to bring all the students in to the fold.

In case of CSP, identification of the social issue and providing solution (product development) need to be completed in one semester which demand more effort in a shorter duration. To address this issue, laboratories are made available for the students beyond working hours. The intense exposure of faculty and expert guidance during reviews helped a lot in timely completion.

Best Practice II

1. Title: Anveshana - Fostering Research Excellence among the Students and Faculty

2. Objectives of the Practice

- To organize sensitization programs for the students and research scholars on Research Methodology including statistical tools and Research Ethics.
- To organize orientation programs for the students, research scholars and faculty to learn about the resources and expertise available in the institution.
- To provide university research fellowships, post-doctoral fellowships and also financial support in the form of seed money for research and innovative projects.
- To encourage quality research publications by providing training in manuscript writing.
- To provide help for young faculty in grant-writing by organizing grant-writing workshops.

3. The Context

The development of a country depends of the research and development activities that result in quality publications, patents and innovative processes that can be translated into product development. Quality research originates from Higher Education Institutions. Because of the lesser number of research scholars and post-doctoral fellows, the out-put of research is also lower. The quality of research can be enhanced by employing faculty members who are trained in premier institutions in India and abroad, fostering research collaborations and establishing research facilities that is accessible to the faculty, research scholars and students. Hiring enough quality man power by offering research and post-doctoral fellowships could also contribute to quality research and could result in increase in the number of publications.

4. The Practice

In order to promote excellence in research, the institution has adopted a step-wise strategy that include establishing research facilities, training our faculty members and students and, offering research fellowships.

International Research Center that was established with state-of-the-art equipment is accessible to all the faculty and students free of cost. More number of research fellowships were created for each of the departments. Besides the research scholars and post-doctoral fellows, the UG

and PG students are also encouraged to participate in the on-going research activities with the guidance of faculty members.

University Research Fellowships are provided to about 60-80 research scholars every year which results in increase in the number of PhDs produced by the institution. This contributes to quality man-power to the national pool. The post-doctoral fellowships provided to the PhD holders helps them enhance their research expertise and also increase the number of quality publications. Research Methodology has been included as a mandatory course for the research scholars who are enrolled for PhD and this covers both ethics and statistical tools that helps the scholars. Research scholars are encouraged to attend conferences, workshops and training programs that help them in enhancing their knowledge and technical skills.

The progress of the Research Scholars is reviewed regularly in the Department Research Committee meetings conducted in the presence of external experts. Our faculty members are also encouraged to apply for the prestigious post-doctoral fellowships such as NPDF offered by DST and Kothari Post-doctoral fellowship offered by UGC. Some chose to go abroad for their post-doctoral training. The faculty members are given sabbatical leave during the fellowship period. Faculty members are encouraged to apply for summer fellowships offered by Indian National Science Academy and TNSCST Young Scientist Fellowship program. Together these initiatives contributed to increase in the number of quality publications.

5. Evidence of Success

The success of the practice is reflected in the creation of an International Research Center that houses state-of-the-art equipment with Rs 5 crores of institutional funding. This enabled our students and research scholars to make use of the facilities at no cost and this can be correlated with the increase in number of publications in the field of Materials Science.

The basic facilities that have been created with institutional funds helped the faculty to file research grants and the institution has obtained research grants to the tune of Rs. 2742 lakhs during the assessment period. There is substantial increase in the number of University Research Fellows and Post-doctoral Fellows during this period. All these initiatives together have contributed to the increase in number of publications in high-impact journals. The number of publications has increased to 2772 publications in the past five years. 10 research articles with more than 10 impact were published in journals.

6. Problems Encountered and Resources Required

The institution has a locational-disadvantage; being situated in a rural area far-from major cities it is difficult to attract global talent. But this is overcome by with increasing in pay for the faculty.

Offering research fellowships helps in attracting better research scholars who could contribute to improving the research contributions and increase the number of publications.