

DR. B.C ROY ENGINEERING COLLEGE

BEST PRACTICES

Best Practice 1

Career Guidance Training

Objectives of the Practice

In today's ever-changing dynamism, Career Guidance to the students is the most vital aspect of college education so that the students can serve the needs of the ever-changing and dynamic market needs. To choose the right career path based on the interest of the students, BCREC offers education beyond the curriculum and provides career guidance to the students in following aspects.

- 1.Exploring various career options
- 2.Developing self-confidence and self-reliance
3. Creating interest for higher studies
- 4.Promoting entrepreneurship
- 5.Promoting a culture among students for lifelong learning
- 6.Helping students to learn beyond the curriculum

The Context

In today's competitive markets, right path of career choice matching with the potential and the interest is not an easy task for the students. To keep the students career-focused and make them aware about the industry and social needs, career guidance through different training processes beyond the curriculum is most essential. The need of the hour is also to induce a habit among the students for lifelong learning to progress in the career. The challenge is changing the mindset of students to become skilled at how to learn new things and adapt themselves with the latest knowledge and techniques. Career growth culture among students has to be developed and will be of particular importance for ensuring their employability and facilitating their transition from college-level education and internship to face the challenges of the future. Finding the correct resource person for effective guidance (external or in-house) having competencies become more and more important in designing and implementation of this practice.

The Practice

These goals are achieved through the following activities of Training and Placement Department as well as the individual departments of specialization in the Institute:

1. Students are trained on Communication & Presentation Skills (using language lab) imparted by the faculty members of English Department - will have a great advantage in the job market and more choice in the profession.
2. Specific training on technical skills like Aptitude test, Programming skills, etc. is provided to the students by hiring Professional Agency, Co-cubes, Bangalore - The students' aptitudes and abilities measured by verbal and numeric reasoning tests can easily be related to real world tasks and jobs, as many jobs require some degree of skill with words and numbers.

3. Soft Skills Training Program (through institutional membership of British Council) which fall into four categories – (i) Problem Solving Skills (ii) Communication Skills (iii) Personal Qualities and Work Ethics (iv) Interpersonal and Teamwork Skills

4. At the individual department level, Career Guidance is provided to the students to help them explore various career options.

5. Mock Tests, Mock Interviews and Personality Development training program by the Campus T&P team members are held on continuous basis to achieve higher rate of placement.

6. To create awareness about the opportunities / challenges in various engineering / application / management sectors, resource persons from industries are invited to deliver technical talks and to impart knowledge on the current trends and latest technologies. This helps students to provide industry insights making the success rate higher.

7. To make student more enthusiastic and boost their self confidence, alumni are also invited to address them and guide them through the career options.

8. Guidance on competitive examinations e.g. GATE and different public service commission examinations is also given at the department level.

9. Students are encouraged to participate in technical contests, carry out project work, undergo internships and also organize various technical fests and social activities to enhance their knowledge through experience.

10. Seminars/Workshops are organized by individual department/students' chapters in collaboration with renowned industries highlighting the importance of education in the industry are conducted.

Constraints faced during students' career guidance:

There is a serious lack of awareness amongst students, their parents, and even teachers which creates difficulty while giving career guidance. There is a serious mis-match between skill building and available jobs. Awareness of career counseling is really low among the students, this leads to hesitation among the students to venture for career counseling in the first place.

Evidence of Success

The career guidance training has augmented the awareness among the students about the importance of effective communication and has helped them to understand about the need for development of other skills other than the technical knowledge they acquire through their regular classes/ labs and continuous assessments.

The performance of the practice is reflected in the campus placement of the students. The total placement scenario has been changed and the placement percentage has taken an upward trend year-by-year. Moreover, students started understanding that they are to be industry-ready as per the market need and it will create their demand. In the process, a larger section of the students get inclined to jobs of different flavor other than the jobs related to their specific technical skill sets.

To add to this, career guidance is helping the students to understand their inclination towards higher studies and they appear for GATE, CAT, GRE, etc. examinations. Although the success rate is not commendable, however, this kind of preparation makes the students ready for facing tough technical interviews as well their confidence increases many-fold on attempting public service examinations. This is evident from the fact that several students are qualifying for the public service commission examinations just after passing out.

Problems Encountered and Resources Required

The problems encountered in implementing the practice are as follows:

1. Difficulty in motivating students about different flavours of jobs available as per industry demands.
2. Finding out right type of professional agencies who can provide training and skill sets to the students as per market demand.
3. Difficulty in convincing students for regularly attending the training programs by the professional agencies for facing tests/interviews.
4. Difficulty in motivating students for higher studies and public service examinations for which attending classes beyond the regular class hours is a requirement
6. Making the faculty members convinced to deliver beyond the curriculum to prepare the students for competitive examinations.
7. Difficulty in making student understand about the fact the instead of short term goals, long term goals are more effective.

Although there are various problems, the institute has been able to implement the practice effectively through decentralizing the training and placement activities and mobilising its technical and non-technical resources in an efficient manner.

Best Practice 2

Content beyond Curriculum

Objectives of the Practice

The main objective of the practice of **Content beyond Curriculum** is to help students in following aspects.

- i. To groom the students in a progressive environment to become competent professionals.
- ii. To create excellent opportunity for students to acquire necessary skill sets and develops self-confidence / self-reliance to face various competitive and professional examinations for employability.
- iii. To enable the students to learn self-learning, team-building, leadership and management skills, innovation and creativity.
- iv. To diversify the programme contents and to establish greater relevance to socio-economic problems of the Society.

- v. To inculcate democratic, moral, social and spiritual values in the minds of the learners.

The Context

Since the industry is continuously evolving and technology is ever emerging, mere learning the curriculum is insufficient. There is often a mismatch between what is learnt in the institution and the industrial expectations from the graduate engineers. In order to bridge this gap and make students industry-ready, much emphasis is given for teaching **content beyond the regular curriculum** which includes branch specific value added courses with industrial tie up and hands-on placement training. It has become nowadays obvious for the institute that it should create opportunities for the students to inculcate attributes, which are not restricted only to engineering / management knowledge and acumen. Moreover, to cater to the need of the industry, the students require being thorough professionals who can work successfully in teams, who have leadership qualities, who are alive to social and community needs and who can bring innovation and creativity to their work and who are also digitally proficient.

The Practice

While applying for accreditation for NBA in the year 2015, the institute adopted its own methodology for introducing the practice of **content beyond curriculum**. Initially academic contents beyond the curriculum were introduced for four programs which were applying for accreditation during the above time, as non-credit points having some contact hours. Socio-economic contents were imparted through co-curricular and extra-curricular events organized under NSS, NCC, etc. events for all the students.

Starting academic year 2018-2019, institute decided to introduce the choice based credit system (CBCS) following AICTE model curriculum for all B.Tech programs as specified by the university. Under this scheme from the academic year 2018-2019 onwards students became eligible for Honours degree by collecting minimum 20 extra credit points, as per mandate of the University. These additional 20 credits students acquire with online courses (MOOCs) where the rare expertise of world famous experts from academic and industry are available which provide the students with the excellent opportunity for skill set development required for employability. The basket for MOOCs is a dynamic one, as courses keep on updating with time. The credits to be earned over are four years (8+4+4+4).

The institute has also preferred SWAYM-NPTEL for implementing the CBCS as the institute is a NPTEL local chapter. If a student fails to complete the requirement of credit during the specified year he/she is given opportunity to complete the requirement in the next year by choosing from the new basket of courses.

As per Mandatory Additional Requirement (MAR) of the university, a concept of mandatorily accumulating some points through a basket of activities for professional development as well as to inculcate the values in the students has also been introduced from 2019. Faculty mentors constantly monitor participation of the students for different activities (details list of activities with points are included in a separate document). Institute notifies such activities through Activity Calendar and every student is required to earn minimum activity points in addition to the required academic grades.

Constraints of the Practice

1. Committed faculty members are required to clarify doubts of the students participating in MOOCs courses. This requires continuous up gradation of knowledge of faculty through FDP programs.
2. It has been observed that students enmasse generally prefer some particular course; other courses are chosen by a few. Breaking this chain as well motivating the students for different set of courses is quite challenging.
3. Individual counselling and guiding takes time and there was resistance from the faculty. Therefore awareness programmes and training had to be organized for the stakeholders.

Evidence of Success

The practice is successfully implemented through constant monitoring by the MOOCs and MAR coordinators and motivating students by the mentors. Following are some of the achievements:

4. Several students of 2018-2022 batch participated in the soft skill development, ethics and programming skills. The programs wise list of the students is attached in the link.
5. For MAR activities all students are actively participating. Almost all pass-out students of 2019 and 2020 have completed the minimum requirements as specified for by the university.
6. In July-October 2019 NPTEL session (for MAR and CBCS), out of total 952 registered candidates 600 passed successfully (63%) with 11 toppers in different subjects.
7. Felicitation at the institute level is done every year for the successful NPTEL participants having Gold, Elite and Silver tags along with the course toppers. In September 2019, 20 Gold, 147 Elite and 67 Silver tagged candidates are felicitated along with 14 toppers.
8. As a nodal center of NPTEL, the institute has been recognized as an ACTIVE and one of the top 100 local chapters. Rating of the college is “A” which is based on performance in NPTEL Online certification courses in July-October 2019. The rank of this college is also in **TOP 10 among all over the India.**

Problems Encountered and Resources Required

The challenges encountered in implementing the practice are as follows:

1. Being affiliated to a university, students are required to follow the traditional instructional method of learning where exams are given much importance. This makes students lose interest in pursuing online and other value added courses.
2. Motivating students for CBCS is quite difficult. In many cases during the 1st year, students start participation in CBCS, however with further progress of semesters they lose interest in many cases.
3. Individual counselling takes time and the faculty members with their busy schedule for routine theory, laboratory classes as well as other academic activities do not find sufficient time for individual guidance.
4. Although there is a basket of MAR activities, however it is difficult to diversify students for all such activities. It becomes a challenge for the mentors to convince the students that more than the minimum

points will enhance their professional and socio-economic capabilities as it is not linked to credit requirements.