

## **BEST PRACTICE I**

### **1.TITLE OF THE PRACTICE: EXPERIENTIAL LEARNING PROCESS**

### **2.OBJECTIVES OF THE PRACTICE:**

- To transform the students into productive engineer through interactive and experiential learning
- process
- To assess students learning and effectiveness of all educational and operational activities
- To enable students, develop projects on their own replicating the same concept or go on for new concept development as they move to higher semesters.

### **3. THE CONTEXT:**

Earlier in any institute staff and students have to look forward for the product, open it up and try to understand the mechanism of working. Such a process is cumbersome and in effective. It is a known fact that students cannot understand the concepts of science without any visual aids. In the experiential learning process, outcome assessment plan is prepared and informed to all stakeholders. Reverse engineering was the first step towards gaining the knowledge of an assembly system. Students can tear down a product and gain a better understanding of the concept and bring together innovative thinking and analysis to solve problems. Though this helps one to build some fundamental engineering skills and inspire one to create, evolving the product to improve some aspect (e.g., change a component to improve performance or reduce cost) this process is ineffective and expensive. Students coming out of rural schools are unable to get an experience of this during school and get into the college without understanding the fundamental concepts of science.

### **4. THE PRACTICE**

In our institution, teachers facilitate student's learning which helps the students to gain skills, knowledge and thinking ability. Experiential Learning is a comparatively new term which defines giving freedom to students to analyze and explore the best suitable learning option for them. The teacher provides a learning environment and the tools required to achieve a certain result. The purpose of this practice is to imbibe lessons through experience rather than preaching theories and dumping facts. The pedagogy followed in PSREC can easily assess the educational levels of the students on particular skills. In PSREC the following Experiential Learning Process are followed:

#### **Student Centric Learning**

Student centric learning broadly encompasses methods of teaching that shift the focus of instruction from the teacher to the student. This aims to develop learner autonomy and independence by putting responsibility for the learning path in the hands of students by

imparting them with skills and basis on how to learn a specific subject. This method focuses on skills and practices that enable lifelong learning and independent problem-solving.

### **Activity Based Learning:**

To overcome the difficulties experienced by the student's activity-based learning is used. The idea of activity-based learning is rooted in the common notion that children are active learners rather than passive recipients of the information. Its core premises include the requirement that learning should be based on doing some hands-on experiments and activities. ICT enabled teaching and learning methods are being used in this method that result in easy understanding of the concepts by students. This method provides a detailed learning to students and prepares them to initiate a project on the basis of what they have learnt in the classroom. A hands on training programme like dismantle and assemble a bicycle, tube light with frame, fans, computers, concrete mixing etc., at the beginning of second year will give a practical experience to students and spark an excitement to learn their courses with passion. Additional laboratories and software are required for students to enhance the understanding of technical subjects with practical examples.

### **Project Based Learning**

This method provides a detailed learning to students and prepares them to initiate a project on the basis of what they have learnt in the classroom. Our institution ensures that all the students irrespective of the departments at the start of their second year attend a 'Hands-On-Training' programme wherein they are taught to dismantle and assemble various day-to-day gadgets they use like a bicycle, tube light with frame, maintenance of computers etc. This practical experience sparks an excitement to learn their courses with passion. Our institution is proud to host additional facilities like 'Centre Fabrication Facility' in Department of Mechanical Engineering, 'Power Systems Analysis Laboratory' in Department in Electrical and Electronics Engineering, 'Embedded Systems Laboratory' in Department of Electronics and Communication Engineering, 'Heat Curing Chamber' and 'Mould for Concrete Preparation' in Department of Civil Engineering, 'Mobile Applications Development Laboratory' in Department of Computer Sciences and Engineering. By making use of these laboratories, staffs help the students to enhance the understanding of technical subjects with practical examples. Additional software other than that of the curriculum is also available for the students to enhance their skills. As students move on to higher semesters, they make use of our "Centre for Excellence" and the other facilities to enhance their skills and fabricate projects under the guidance of the staff.

### **Field Work**

Field work allows students to explore and apply content learned in the classroom in a specified field experience away from the classroom. Field work experiences bridge educational experiences with an outside community that can range from neighborhoods and schools to anthropological dig sites and laboratory settings. Survey camps are included in the Civil Engineering curriculum which gives a better insight on the field.

**Internships:**

Students are undergoing internship during their course of study where they are trained in a work place and with the experience gained hence they will become a Industry Ready Engineer. Additionally this will improve the chance of getting placement in reputed organizations.

**Industrial Visits:**

Industrial visit is considered as one of the most tactical methods of teaching. It aids students to know things practically through interaction, working methods and employment practices in the industries. Moreover, it gives exposure to practical working environment; acquaint students with interesting facts and breath-taking technologies. Such visits help the students to choose the choice of their careers.

**5. EVIDENCE OF SUCCESS****Student Competency**

There is an increasing number of participation and award winners among students in various project competitions, presentations in conferences. Recently two batches of 3 and 2 students of the Department of Bio-Technology won Rs.50,000 as cash from Tamil Nadu Entrepreneur Development Cell for the display of their innovative projects during a programme conducted by Anna University in the Academic Year 2018-19. Students have come forward to present their fabrication and design projects in the National level Conferences conducted in-house and on seeing the recognition obtained here head to other institution conferences. Patents have been filed

**In-plant training:**

Students are encouraged to seek in-plant training. Placement centre of the college aid in this process of acquiring a minimum of 1week to 2 weeks training during their semester holidays. A total number of 244, 208, 121, 137 and 134 students actively participated in in-plant training years during the academic years 2018-19, 2017-18, 2016-17, 2015-16 and 2014-15 respectively.

**Internships:**

A list of 288, 123, 133, 109 and 132 final year students underwent internships for a period of 2 to 5 months during the academic years 2018-19, 2017-18, 2016-17, 2015-16 and 2014-15 respectively.

**Industrial Visits:**

Students are taken for visits to industries during each academic year.

**On-campus Placements:**

There is a significant improvement in the on-campus placements. The number of placements is 252, 275, 291, 320 and 366 starting from academic year 2014-15 to 2018-19 in ascending order.

**Pass percentage:**

A remarkable success of this practice has been reflected in the increasing pass percentage of students. Pass percentage of out-going students is in the range of 90% throughout the past five years.

**Additional laboratory facilities:**

By making use of additional laboratories and software, students enhance the understanding of technical subjects with practical examples.

**6. PROBLEMS ENCOUNTERED AND RESOURCES REQUIRED**

Effective training is required for the transition from the conventional learning method to experiential learning. It involves more investment and time. Getting permission for industrial visits / internships / industrial based training from the industries is another challenge. Due to the competitive productive environment, the industries are not willing to accommodate students for training / visit / internship. The curriculum followed is having time constraint and hence the availability of time is the another challenge.

## **BEST PRACTICE II**

### **1.Title of the Practice: E-GOVERNANCE IN TEACHING AND ADMINISTRATION**

#### **2.Objectives of the Practice**

- To ensure accurate, hassle free and speedy process of data processing and decision making and continual improvement
- To standardize and automate various processes across the institution
- To meet the challenges of accessible, relevant and affordable data across the institution and the outside world To create paperless administration

#### **3.The Context**

Starting from Student Admission to completion of degree, more number of academic and administrative processes are involved. Educational institutions have various requirements that include computerization and management of processes such as registration, admission, student information, classes, time table, transport, attendance, library, salary and expenses, examinations, performance, results, hostels and reports. In manual process, data generation, storage and retrieval of the data is having less accuracy level and time consuming. To rectify these problems. EGovernance is the only possible method. Of course, access to any institutional detail need to be quick, accurate, hassle free and secure throughout the year. Networking and ample computer facilities are needed to achieve the purpose of e-governance. Though adapting to modern computer or android mobile technology is difficult compared to paper based governance, with the rapidly changing technology it should be done such that people across various levels can access the information easily without any training. Updating the available software and go for emerging technologies to get the data secured and easy accessibility is the need of the hour for successful e-governance.

## **4. THE PRACTICE**

#### **E-Services:**

E-governance is introduced in all levels. Institute has a well-designed ERP called i-Boss, through which the data can be stored and retrieved whenever needed. The information about the students, faculty, are stored in the ERP software and reused whenever required. E-governance in our institution allows use of information and communication technologies with the aim of improving education, improve information, service delivery, encourage student participation in the decision making process, making administration transparent and effective.

#### **E-Governance in Admission:**

The ERP is having the admission module in which all the admission related processes are stored and retrieved. On line application reduces the paperwork and enhance the clarity and accuracy. The student's personal information, fee payment details, scholarship details, academic achievements, and other relevant information are available in this module.

### **E based Teaching and Learning:**

The current delivery of education is based on eLearning technology providing lecturers with ICT based teaching tools. The online methods enable more effective education and offer significant advantages over traditional teaching methods. This has been possible by technological implementation based environments such as LCD projectors, Video lectures, video conferencing, smart classroom lectures, virtual lectures and E-Libraries and E-learning environment supports class room discussions. More number of MOOC courses are also made available to our students and staff for reference. A separate online module called Learn on Line is established in our college where the faculty post their materials, lectures and assignments online and the students can be answered the same way. Apart from that, Google Classroom is also blended online learning platform.

### **E-Governance in Examination:**

Course registration, examination schedule, hall arrangement, issue of hall tickets, examination results and issue of mark statements are automated. Due to this the errors are eliminated and the results are published in time.

### **E governance in Library:**

PSREC library is using Autolib library management software (JAVA version) for circulation, stock verification. This software provides facility such as department interlinking, SMS, E-mail notification for transaction etc. E-Gate facility is also available to monitor the entry and exit of the user. Library networking is connected with college LAN and Wi-Fi access. The electronic resources can be accessed through Digital library. Electronic Resources like IEEE journals, Springer Journals, N-LIST(inflibnet), Delnet etc. are made available in the digital library for the use of faculty and Students at the college campus.

### **Centralized Information:**

E-Governance has provided electronic information infrastructure to simplify service delivery, reduce duplication, and improve the level and speed of service at a lower cost. The centralized information approach of e-Governance keeps all information at one place in electronic form. This approach of making information secure prevents it against any theft or leakage.

### **5.0 EVIDENCE OF SUCCESS:**

After the implementation of e-governance, there is a vast improvement in the delivery of services to students, faculty by providing services. The academic related circulars are sent through E-mail and 'WhatsApp' applications to the students and the faculty. The system provides timely alert to colleges through SMS /Emails.

### **In Teaching & Learning:**

Due to the use of ICT in Teaching and Learning, the efficiency, transparency and accuracy are improved. The multi-faceted benefits of ICT are;

Personalized login for each student.

Extensive saving in time cost & efforts

Students can access virtual lectures & seminars.

Data can be accessed easily.  
Saving of hidden operational cost.  
Instant statistical report generation.  
Long term impact on organization goals  
Improve education system  
Empowerment of faculties, students & encouragement of their participation in governance.

**In Examination:**

The automation in examination system reduces the number of days between the conduct of examination and publication of results. This speedy publication of results helps the students in their further progression to higher studies and placements.

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**In Library:**

The Staff and students have unlimited access to resources through the library automation. The searching of books made easier. Remote access of e-Journals save the time

**Green Practice:**

The Automation process reduces the usage of paper in our college. It also helps to retrieve necessary information instantaneously for decision-making.

**6. Problem Encountered and Resources required:**

The system needs to be updated and maintained frequently to meet the needs of the governance. Implementation of E-governance increases the investment. Data updation is another challenge in EGovernance. For remote access, the users need internet facility in their places.