

ENGINEERING EXPERIMENTATION COURSE (EEC)
Innovations in Engineering Experimentations

Introduction

This project for improving laboratory instruction in Gujarat followed an inter disciplinary approach and aimed at developing in the students an attitude of enquiry, confidence and ability to tackle new problems, the ability to interpret events and results, and the ability to work as a leader and as a member of a team, in addition to the development of other experimental skills.

EEC was introduced in 1979-80 on a pilot basis in two polytechnics and extended to all the polytechnics by 1981. A special feature of this scheme was undertaking project work by students at the first year level itself. Training of teachers and monitoring the implementation were in built features of the project.

The EEC programme had two important characteristics, which distinguished it from conventional laboratory work. The first was that it emphasises the development of the practical knowledge, skills and personal attributes required by the engineering technician in industry, rather than reinforcement of the students' theoretical studies. The second characteristic was that the course transcended disciplines in the sense that much of its content and emphasis common to all students of Mechanical ,Civil and Electrical Engineering.

Objectives

- a. To understand the problems with conventional laboratory work including the resource constraints in the polytechnics of Western Region, India.
- b. To develop a new laboratory approach acceptable to polytechnics.
- c. To develop documents required for the use of polytechnic staff and students for effective implementation of the new laboratory course.
- d. To monitor the implementation by periodical visits to polytechnics.
- e. To organize staff training programme for implementing the new laboratory course.

Strategies Adopted

- i. Training of supporting staff
- ii. Training of senior polytechnic teachers for conducting orientation programmes and monitoring visits.
- iii. Developing an infrastructure in the polytechnics conducive for EEC implementation.
- iv. Activating EEC coordination committee for solving resource administrative and other problems.

Details of Development and Implementation for EEC are as follows:

- No. of polytechnics:

- Disciplines: 5 (Civil, Mechanical Electrical Automobile Plastics)
- Number of Documents prepared: 20
- Number of students: 5000 each year
- Number of orientation programmes: 30
- Number of teachers trained/retrained: 500
- Number of supporting staff trained: 150
- Number of monitoring visits: 80
- Number of other short courses: 20
- National summer school and dissemination of EEC concept: 1
- Number of papers presented: 6

Fig.: Flowchart indicating Process Implementation cycle of EEC (1978-83)

1976-77	Design and Development of the Course and self try out
1977	Acceptable by Educationists and Administrators
1977-80	Pilot try-out in two polytechnics
1977-80	Feedback, modification and further development
1980	Implementation in three more polytechnics
1983	Formation of Gujarat EEC Coordination Committee
1981	Implementation in seven more polytechnics
1983	Implementation in two newly established polytechnics
1984	Planning for implementation in part time diploma course