

Pedagogy Cell Activity Report for 2020-2021

- ❖ Pedagogy cell meet regularly and studying different pedagogy practices adopted / practiced by different engineering institutes across India and abroad. Objectives and Expected Outcomes in line with Perspective Plan for Context: - 'Teaching—Learning—Evaluation' have been finalized and details are given in following table.
- **In the academic year 2020-21, following activities were organized for college faculties.**
 - [Ref. :- Perspective Plan(Teaching—Learning—Evaluation):
 - *Action Point no. 2: to investigate and disseminate new pedagogic practices, and*
 - *Action Point no. 3: to explore experiment, adopt and follow best pedagogic practices in teaching and learning.*]
- ❖ **Four weeks 'On-line FDP on Examination Reforms' for all CCEW faculty was arranged from 12th September to 3rd October 2020:**
- In line with an appeal by AICTE to the technical institutions and universities in the country to adopt AICTE- examination reform policy, a series of Training Sessions / Faculty Development Program 'On-line FDP on Examination Reforms' for CCEW faculty was organized.

Session	Topics to be covered	Activities
1.	<ul style="list-style-type: none"> • Need for outcome based education (OBE) • Elements of OBE 	<ul style="list-style-type: none"> • Quiz to check understanding of OBE and Examination reforms ➤ Home assignment: <ul style="list-style-type: none"> • List the Program Outcomes (POs) and Program Specific Outcomes (PSOs) of your program • Map PEOs with POs of your program
2.	<ul style="list-style-type: none"> • Understanding Graduate Attributes, Competencies and Performance Indicators 	<ul style="list-style-type: none"> • Writing and critiquing competencies and performance indicators (PI) for program outcomes
3.	<ul style="list-style-type: none"> • Writing course outcomes (CO) using Bloom's Taxonomy, preparation of course articulation matrix 	<ul style="list-style-type: none"> • Writing COs for a course using Bloom's Taxonomy
4.	<ul style="list-style-type: none"> • Use of Bloom's Taxonomy for design of question papers 	<ul style="list-style-type: none"> ➤ Home Assignment: <ul style="list-style-type: none"> • Design a semester end question paper for the subject you are currently teaching or already taught.
5.	<ul style="list-style-type: none"> • Use of Rubrics 	<ul style="list-style-type: none"> • Assessment of professional outcomes through rubrics
6.	<ul style="list-style-type: none"> • Case studies: Course project and laboratory experience 	<ul style="list-style-type: none"> • Triangulation of COs, PIs and questions through examples and exercises
7.	<ul style="list-style-type: none"> • Understanding SEE model question paper with CO, BL & PI • Q&A session 	<ul style="list-style-type: none"> • Mapping of POs with Appropriate PIs

- Expert sessions on these (said in table above) were delivered by two eminent experts **Dr. Gopalkrishna Joshi** [*Director of Higher and Technical Education, Bangalore, Govt. of Karnataka State*] and **Dr. Prakash G. Tewari** [*Principal, BVB College of Engineering and*

Technology, Hubballi & Dean Academics of KLE Technological University] worked as a trainer our faculty. The detailed schedule for 7 sessions [for 4 weeks] is as follows,

Day	Date	Time	Sessions
Saturday	12/09/2020	2.30 pm to 5.30 pm	S-1 and S-2
Saturday	19/09/2020	2.30 pm to 5.30 pm	S-3 and S-4
Saturday	26/09/2020	2.30 pm to 5.30 pm	S-5 and S-6
Saturday	03/10/2020	2.30 pm to 5.30 pm	S-7 and discussions

- It is observed that, all CCEW, Pune faculty members had participated and after every session during weeks' time, faculty used to complete the given assignments. So, this FDP turned in to hands on FDP for faculty.

- ❖ **Department/UG-Program-wise activities for use of Examination Reforms Policy' for redefining Competencies & Performance Indicators... pertaining to POs & PSOs are carried out:**
 - Brainstorming by department faculties could redefine Competencies & Performance Indicators pertaining to POs & PSOs. Revised statements Competencies & Performance Indicators pertaining was presented by respective Program Heads in front of Principal and Deans to consider their suggestions.
 - Such revisions in Competencies & Performance Indicators for respective POs/PSOs form a reference and accordingly faculty has refined CO statements for the Theory / Lab courses they teach. Accordingly, CO-PO/PSO mapping and in-turn Course and Program Articulation Matrix also got revised.
 - Such revisions have impacted positively as... Course Outcome is now correctly getting mapped to question statements (to be asked in question papers / as an assignment) for performance evaluation.

- ❖ **Department/ Program-wise activities consisting of brainstorming with individual faculty or in group to disseminate the explored / experimented, adopted pedagogic practices on need basis.**
 - Department/Program-wise experiences are summarized in following table.

S.n.	Department	Experiences
	Computer Engg.	Moodle : 7 faculty members used Moodle LMS
		Game pedagogy : Almost all faculty members used Google classroom
		Quizzes Almost all faculty members used quizzes
		Google classroom : Increased use of game pedagogy like crossword, puzzles, word search etc.
		Evaluation methods : Many faculty used Google forms, case studies, poster presentation, presentations, Assignments for evaluation purpose
		Active Learning techniques : Increased use of TPS, brainstorming, etc.

	<p align="center">Information Technology</p>	<p>New techniques explored are...</p> <ol style="list-style-type: none"> 1. New techniques explored (1, 4 courses) Game Pedagogy 2. 20 minutes documentary film and questions on that as T1 3. Game development on security features as T1 4. video presentation as T1 5. Everyone has used Google classroom or Moodle <ul style="list-style-type: none"> ➤ Percentage increase in the tools: 20 percent ➤ No input for bullet 3 and 4. ➤ One T.Y. Lab Course is identified for exploring the use of project based learning, which is to get started [as no practical done].
	<p align="center">Instrumentation and Control Engg.</p>	<p>After the workshop on Moodle as LSM conducted by pedagogy cell all the staff members started using Moodle as LSM for</p> <ul style="list-style-type: none"> ➤ Sharing the subject content ➤ Link for online lectures ➤ Conducting activities for assessment like quiz, crossword, assignments etc. ➤ Feedback ➤ Maintain the attendance record <hr/> <ul style="list-style-type: none"> ➤ After the lectures on Exam reforms conducted by pedagogy cell ➤ COs for courses of the program were revised ➤ CO-PO and CO-PSO mapping was revised ➤ Paper setting pattern was revised It provide an insight about Open ended assignments ➤ It provide an insight about competencies and performance indicators <hr/> <ul style="list-style-type: none"> ➤ An increase in the use of tools and techniques for improving the teaching learning process is observed, ➤ Subjects which can be taught using PBL teaching pedagogy were identified [viz. Embedded product design(T.Y.)]
	<p align="center">Electronics and Tele-communication Engg.</p>	<ul style="list-style-type: none"> ➤ New tools and techniques explored are- MOODLE as LMS, Project based learning, Problem based learning, Flipped classroom, use of game pedagogy (such as crossword), poster presentation, Online-GDB classroom, use of screencasting tool for recording, and preparing OER. ➤ Tools and technique use is increased- Use of Google classroom, use of google forms for conducting quizzes, use of google assignment, case studies ➤ Setting of questions in question papers, assignments are now mapped with PIs along with CO mapping ➤ This Year Digital Signal Processing (TY) course was identified for Project based learning for T1 evaluation and VLSI Design (Final Year) lab was identified for Problem based learning.
	<p align="center">Mechanical Engg.</p>	<ul style="list-style-type: none"> ➤ All faculty members are using 'Google Classroom' for sharing study material and assignments. ➤ The lab experiments for the course of Turbo Machines (final year mechanical engineering) was conducted using the 'Virtual Labs' platform (developed by IITs) ➤ For the lab course of CAD-CAM (final year Mechanical Engg.), students were provided remote access to the computer centre, to carry out the lab work from their homes. ➤ The department faculties learnt the use of a mobile app named 'IP webcam' and used this app for teaching mainly for the courses involving mathematical and graphical solutions. Accordingly, metallic, adjustable stands for mounting the mobile phones were manufactured in college workshop. ➤ For all the courses in current academic year (2020-21), all department faculty members adopted assignment based evaluation for T1-Exam. ➤ The department has identified the courses of Machine Design, Heat Transfer and Industrial Engineering for project based learning.

- Examples of Pedagogy Practices explored by respective department faculty are made available on our college website for external review and comments.
 - Website links... e.g.
 - <https://www.cumminscollege.org/academics/departments/instrumentation-and-control/>
 - <https://www.cumminscollege.org/academics/departments/electronics-and-telecommunication/>

- [Ref. :- Perspective Plan(Teaching—Learning—Evaluation):
 - *Metrics and Targets Publication of yearly magazine devoted to pedagogic practices: From 2019-20]*
- ❖ In line with the College Perspective Plan, ‘Cummins College Digest of Engineering Education’ for was published in year 2020 by College Pedagogy Cell. Topics covered are tabulated as follows,

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- ❖ It is proposed to conduct one session for CCEW faculty on ‘Open Ended Assignment: A case study’.