Ajeenkya DY Patil School of Engineering, Lohegaon, Pune.

Project Based Learning

Standard Operating Procedure

SoP No: SoP/ 2019 /2.3.1

Vision

Empowerment through quality technical education

Mission

M1: To achieve excellence in teaching, learning and research

M2: To impart skill based education to meet the needs of industry and Society

M3: To excel as a center of excellence in technical education

M4: To inculcate social & ethical values among the students

Quality Policy

We strive to impart the quality technical education through academic excellence and provide best of facilities to satisfy the need & expectations of the students & stakeholders.

Project Based Learning (PBL)

Standard Operating Processes (SoPs)

1. **Assign a dedicated slot in the timetable and select PBL Coordinator**
2. **Group Formation:**
   a. Create groups consisting of 3-4 students (As per the SPPU Guidelines) each and assign a number and unique name to each group. The student have to give the unique name to the group.
   b. **The names are for examples:** The Achievers, The Visionaries, The Mavericks, The Dream Team, The Harmony Heroes, The Scholars United, The Problem Solvers, The Dynamic Thinkers, The Game Changers, The Stellar Minds, The Success Seekers, The Renaissance Group, The Elite Alliance, The Trail Seekers, The Intellectual Titans, The Wisdom Warriors, The Bright Sparks, The Thought Leaders, The Academic Avengers, The Synergistic Stars etc. (Dean- Student Development could help here to identify the names).

3. **Assign mentors to the groups:**
   a) Assign a dedicated mentor to each group
   b) Roles and responsibility of the mentor –
      - Bring expertise and knowledge related to the project topic or field
      - Set clear goals for their project and help them develop a structured plan
      - Provide input on project scope, timeline, and milestones, ensuring that students have a roadmap for their work
      - Provide continuous feedback on students' progress, offering constructive criticism and suggestions for improvement
      - Assess the quality of work and provide guidance on how to enhance project outcomes
      - Help students develop essential skills relevant to the project, such as critical thinking, problem-solving, communication, and collaboration
      - Promote metacognition and empowers students to become self-directed learners
      - Play a vital role in keeping students motivated and engaged throughout the project
      - Help students overcome challenges and setbacks
      - Help students understand how their project relates to the broader context, industry, or community, fostering a sense of purpose and relevance
      - Provide opportunities for presentations, exhibitions, or publications, promoting a sense of accomplishment and pride in students' work
4. **Identification of the problem:-**

Here are the steps for problem identification, involving faculties to generate ideas, and evaluating those ideas based on creativity, innovation, feasibility, and real-world problem-solving:

1. Involve Faculties: Involve faculties in the problem identification process.
2. Brainstorm Ideas: Faculty should conduct a number of brainstorming sessions with the students to generate a wide range of potential problem ideas. Encourage open discussion, creativity, and the sharing of unique viewpoints. Faculty /mentor can use the ide generation form to generate ideas focusing on specific problem, area, issue, area, product, field etc.
3. Evaluate Creativity and Innovation: Evaluate the generated ideas from the perspective of creativity and innovation. Consider how each idea challenges existing norms, introduces novel approaches, or offers fresh insights into the problem domain.

4. Assess Feasibility: Assess the feasibility of the ideas by considering the available resources, time constraints, and technical or logistical requirements. Determine whether the ideas can be realistically pursued within the given context.
5. Solve Real-World Problems: Prioritize ideas that have the potential to address real-world problems. Look for ideas that can make a positive impact, bring about social change, or provide practical solutions to existing challenges.
6. Consider Problem Domains: Ensure that the selected problem refers back to a particular practical, scientific, social, or technical domain. This connection helps ground the problem in a specific context and allows for targeted research, analysis, and solution development.
7. Refine the Problem Statement: Craft a clear and concise problem statement that captures the essence of the identified problem. The statement should highlight the key aspects, challenges, and desired outcomes of the problem.
8. Seek Interdisciplinary Collaboration: Encourage interdisciplinary collaboration by involving faculties and experts from different disciplines.

By following these steps and involving faculties in the problem identification process, a number of ideas can be generated that are creative, innovative, feasible, and have the potential to solve real-world problems within specific domains.

5. Assessment of the progress:

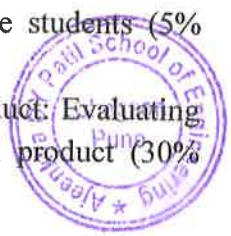
1. The mentor needs to regularly monitor, assess and evaluate the project on a weekly basis.
2. During the process of monitoring and continuous assessment, individual and team performance is measured.
3. Each student undergoes an individual assessment that aims to understand their capacity, role, and level of involvement in the project. This assessment provides insights into the individual's contribution and growth within the PBL context.
4. Group assessment focuses on evaluating the defined roles within the group, the distribution of work, intra-team communication, and the overall cohesion and collaboration exhibited. This assessment ensures that the group effectively functions as a team and achieves collective goals.
5. Students are required to document their project progress, outcomes, and reflections maintaining the PBL workbook.

6. Evaluation of the PBL:

a) Record-keeping and Documentation:
- All activities related to the Project-Based Learning (PBL) are to be recorded and documented regularly.
- Both students and mentors are responsible for maintaining proper documents, which can be referred to as the PBL workbook.

b) Continuous Assessment Sheet (CAS):
- Mentors should maintain a Continuous Assessment Sheet (CAS) for each project.
- The CAS serves as a record of ongoing assessment and evaluation.

c) Recommended Parameters for Assessment and Evaluation:
- Idea Inception: Assessing the initial idea or concept proposed by the students (5% weightage).
- Outcomes of PBL/Problem Solving Skills/Solution Provided/Final Product: Evaluating the results, problem-solving abilities, solutions offered, and the final product (30% weightage). Both individual and team assessments should be conducted.



- Documentation: Assessing the quality of documentation, including requirements gathering, design and modeling, implementation/execution, use of technology, and the final report (5% weightage).
- Demonstration: Evaluating the presentation skills, user interface, usability, and other demonstration aspects (5% weightage).
- Contest Participation/Publication: Recognizing participation in contests or publications related to the project (55% weightage). Exhibition – 30% and Publication -25%.
- Awareness/Consideration of Environment/Social/Ethics/Safety Measures/Legal Aspects: Assessing the understanding and incorporation of environmental, social, ethical, safety, and legal considerations (5% weightage).

d) PBL Workbook:

- The PBL workbook serves as a comprehensive record and facilitates the work of students, mentors, and project coordinators.
- The workbook reflects accountability, punctuality, technical writing ability, and the workflow of the undertaken work.

The recommended parameters provide a clear framework for assessing different aspects of the project, and the PBL workbook serves as a valuable tool for documentation and accountability.

Timeline

Sr.	Particular	Timeline	Due Date
1	Create groups consisting of 3-4 students each and assign a unique name to each group.	1st week	
2	Assign mentors to the groups	1st week	
3	Submit the group details with mentors to DSD	2st week	
4	Identification and finalization of the problem	2st week	
5	Submit the details of projects such as title of the project and a half page abstract to DSD	2st week	
6	Continuous assessment	Weekly	
7.	Final Assessment and Evaluation	8th week	
8	Arrange the exhibition of the PBL	9th week	
9	Submit the evaluation report along with the PBL Book and article to be published to DSD	9th week	

Project Based Learning (PBL)

Group Details

Department ..... Semester: .....Class: .....Division:.....

Sr.	Name of the Student	Roll No.	Sign	Number and Name of the Group	Name of the Mentor and Sign

Sign of PBL Coordinator

HoD Sign

Project Based Learning (PBL)

Project Details

Department .... Semester: ....Class: ......Division:.........

Sr.	Roll No.	Sign	Group No. and Name	Title of the project	Abstract Submitted (Y/N)

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Sign of PBL Coordinator **HoD Sign**

Project Based Learning (PBL)

Continuous Assessment

Name of the mentor: ………………………………. Semester : ……….Class: …..Division:……

Group No.	Roll No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

***Weekly Review- mention the progress Excellent/Good/Poor/AB**

Sign of the Mentor

HoD Sign

Project Based Learning (PBL)

Final Evaluation

Name of the mentor: ..... Semester : .....Class: .....Division:.....

Group No	Roll No.	Idea Inception (5 Marks)	Solution Provided (10 Marks)	Documentation (5 Marks)	Participation in exhibition (15 Marks)	Demonstration (5 Marks)	Paper publication (10 Marks)	Total Marks (50 Marks)

Mentor Sign **HoD Sign**

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