

Engaging Undergraduates in RESEARCH and INQUIRY: A Scholarly Dialogue

Multi-disciplinary Group Project (MDP)

Course Instructor/Project leader

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Project/Course Objectives

1. To work as a team on a common design project that encompasses **electrical, electronic, mechanical, and manufacturing** design features as well as **marketing, advertising and distribution**.
2. To search and obtain the required information necessary to achieve a defined objective.
3. To lead a design team and be responsible for the work which others do.
4. (i) To professionally present material in a clear and succinct manner within a specified time frame.
(ii) To write a clear and understandable report to a professional level of competence.

Inquiry Based Learning Activities

There are four members in a team. Each team member acts as Team Leader for one of the following tasks. There are 27 different project specifications that student teams can select from

Project Tasks

- **Task 1** to decide on the **potential market** where, and in what volume a product will be sold.
- **Task 2** to **design the product** from a technical perspective so that it fulfills functional needs, and aesthetic requirements of the consumer.
- **Task 3** to determine how the product should be **manufactured** recognising expected sales volume.
- **Task 4** to decide upon how the product should be **advertised and promoted** so that the agreed production volume will be compatible with sales volume.

How did you assess the effectiveness of students' learning?

Continuous Assessment: 100%

Specific Assessment Methods	% Weighting	Intended Learning Outcomes to be Assessed				
		1.	2.	3.	4(i)	4(ii)
1. Team Report (for the Team, segregated by Team Members if practicable)	40%	✓	✓			✓
2. Oral Presentation (Team Leader only)	20%				✓	
3. Team Leader's report (Team Leader only)	20%			✓		✓
4. Executive Summary (for the Team)	10%	✓	✓			✓
5. Peer and Self Assessment (see below)	10%			✓		
Total for the Task	100 %					

Peer and Self Assessment

Team Leader (TL): Team Leader assesses each team member and makes a self assessment.

Team Members (TM): Team members carry out an assessment on the performance of their Team Leader and make a self assessment.

Grades for all Peer and Self Assessment is accounted for 10% of the final grade.

What were the major outcomes of this project/course? Do they match with your objectives?

- Approximately 90% of the student found the project interesting.
- The majority of students indicated that the multi-disciplinary project (MDP) was very useful as it emphasized on teamwork and the need for cooperation among team members.
- Students found that the experience of being a Team Leader extremely valuable to their future career.
- This project was very different (and much more useful) than the individual project that they had completed during prior studies.