Agni College of Technology

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ISO 9001:2015 Certified Institution: Estd.2001
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DEPARTMENT OF MECHANICAL ENGINEERING

FISH BOWL TECHNIQUES

Academic year	: 2022-2023
Degree	: B.E.
Year & Semester	: IV/VII
Course Code & Title	: CME396 / Process Planning and Cost Estimation
Name of the Faculty Member	: Dr. K. Arul
Date	: 14/07/2022
Innovative Practice	: Fish bowl Techniques
Topic	: Steps in process selection, Production equipment and tooling selection
Total Students Participated	: 23

Introduction

The Fish Bowl Technique is an interactive, student-centered teaching–learning method that promotes active participation, critical thinking, and collaborative problem-solving. In this approach, a small group of students actively discusses and analyzes a problem in an inner circle (the "fish bowl"), while the remaining students observe, listen, and reflect from an outer circle. Roles are rotated to ensure inclusive participation. For the Process Planning and Cost Estimation, which require logical sequencing, decision-making, and cost analysis, the Fish Bowl Technique enables students to apply theoretical knowledge to practical manufacturing scenarios. By engaging in structured discussion on process selection, machining sequence, time estimation, and cost calculation, students gain deeper conceptual clarity and industry-oriented thinking skills.

Methodology

1. Students are divided into an inner circle (discussion group) and an outer circle (observers).
2. The inner circle analyzes the component, decides the process sequence, and estimates time and cost through discussion.
3. The outer circle observes the logic, assumptions, and calculations.
4. Roles are rotated to ensure equal participation.
5. Finally, the faculty consolidates key points and provides feedback.

Outcomes

1. Students understand how to choose suitable manufacturing processes based on product requirements and material characteristics.
2. Students gain the ability to select the right machines and tooling for efficient and accurate production.
3. Students can evaluate manufacturing feasibility considering cost, quality, production volume, and capability.
4. Students develop process-planning skills including sequencing of operations, tool selection, and setup planning.
5. Students learn to optimize productivity by choosing processes and equipment that minimize waste, rework, and production time.

Student Participation

- Total Students: 23

- Participation Mode: Group Discussion

- Engagement: Students actively discussed, clarified doubts, and provided feedback to their peers.

Relavant PO's :

PO1	PO 2	PO 3	PO 4	PO 5

Participant Name List

S. NO	REGISTER NO	STUDENTS NAME
1	312819114001	Abin A
2	312819114002	Amudan B
3	312819114003	Ganesh S
4	312819114004	Kumaresan P
5	312819114005	Lingesh M
6	312819114006	Peter J
7	312819114007	Sarankumar E
8	312819114008	Selva Ganesh T
9	312819114010	Surya R
10	312819114011	Thulasi Daran J
11	312819114012	Vishweshwaran S
12	312819114013	Xavier Rayan S
13	312819114301	Anil Kumar M
14	312819114302	Asaithambi S
15	312819114303	Chandru S
16	312819114304	Gobinath G
17	312819114305	Gokul R
18	312819114306	Kamash M
19	312819114307	Karan Singh Shekhawat M
20	312819114308	Keerthivasan K
21	312819114309	Prakash Dey Jk
22	312819114310	Tholkappiun T
23	312819114311	Vijay Pun Magar

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Fish bowl Techniques conducted on 14.07.2022 by Dr. K. Arul for Process Planning and Cost Estimation Course

The valuable feedbacks can be provided in the below link for the above innovative teaching method.

https://docs.google.com/forms/d/1q1bivFwkvlCQHRqhUMOR3mNPZszKV5OnFgWvXt7bATI

Faculty In charge   HoD/Mech