SRI VASAVI INSTITUTE OF ENGINEERING & TECHNOLOGY
Department of Mechanical Engineering
ACADEMIC YEAR 2024-25

Innovative Teaching Practice: Self Learning

Faculty Name	Ms.D. Khyathimai
Course Name	DMM-I
Academic Year	2024-25
Class	III/I SEM
Topic	Shaft Sizes

Objective of the Activity: In innovative teaching and learning, self-learning helps students take charge of their own education. They learn to understand what they need, set their own goals, and find useful resources. This builds independence and a deeper understanding. It also helps students connect what they study with real-life situations like jobs, being responsible citizens, and personal development.

Pre-Class Preparation:

Self- learning is a method that puts learners in control of their educational journey, allowing them to take the lead in how they acquire knowledge. In this approach, learners define their own objectives, choose the resources they'll use, and decide on the methods that work best for them. They actively pursue new skills or knowledge and later reflect on their progress.

When a tutor or instructor is involved, their role is more of a facilitator than a traditional teacher. They might help outline a learning goal, but the responsibility for navigating the path lies with the student. The tutor steps in mainly to offer guidance or support if the learner encounters challenges. This type of learning often happens naturally in daily life but can be purposefully integrated into various educational settings, such as schools, universities, and even corporate environments.

In-Class Activity:

Each group will select or be assigned one specific stage of shaft sizing. Example Shaft Size Stages:

- Nominal Shaft Size
- Minimum Shaft Diameter
- Maximum Shaft Diameter
- Tolerance Limits
- Fit Types (e.g., Clearance Fit, Interference Fit, Transition Fit)
- Surface Finish Requirements
- Keyway Provisions
- Standard Shaft Sizes (Based on ISO or BIS Standards)

Tasks for Each Group:

Understand the Assigned Stage

- Define the stage (e.g., nominal size, tolerance, fit, etc.)
- Explain its engineering significance.

Research Standards

- Identify relevant standards (e.g., ISO, ANSI, BIS) applicable to your stage.
- Note down recommended values, tables, and common practices.

Applications and Use Cases

- Provide real-world examples where this shaft size stage is critical (e.g., gears, motors, couplings).
- Highlight any machines or industries where it's commonly used.

Design Considerations

- Discuss factors like:
  - Material selection
  - Manufacturing tolerances
  - Type of load (bending, torsion)
  - Safety factors

Time Allotted for Activity:

- Pre-class preparation:50Minutes
- In-Class Activity:50 Minutes

Images / Screenshot of the practice

Self Learning Class Room Activity	Screenshot of the practice
Activity on Self Learning	

Benefits of Self Learning practice:

These learners enhance their abilities in:

> Researching
> Making informed decisions
> Solving problems independently
> Staying organised
> Motivating themselves
> Building resilience
> Managing their time effectively

Signature of Faculty Member

HOD