



SRI VASAVI INSTITUTE OF ENGINEERING & TECHNOLOGY

Department of Mechanical Engineering

ACADEMIC YEAR 2024-25

Innovative Teaching Practice: Self Learning

Faculty Name	Mrs. Ch. Anusha
Course Name	Mechanics Of Solids
Academic Year	2024-25
Class	II/I SEM
Topic	Stress Strain Diagram for mild steel

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 selects or is assigned one specific stage of the stress-strain diagram for mild steel. The group will research, discuss, and present their assigned part to the class. Example Stages:

- Proportional Limit
- Elastic Limit
- Yield Point
- Ultimate Tensile Strength (UTS)
- Fracture Point

Tasks for Group Activity:

Group 1: Proportional Limit

Tasks:

1. Define the proportional limit and explain Hooke's Law.
2. Describe what happens to mild steel under load in this stage.
3. Show where this stage is located on the stress-strain curve.
4. Give a real-life example where this concept is important.
5. Draw or present a small sketch highlighting this region.

Group 2: Elastic Limit

Tasks:

1. Explain what the elastic limit means in simple terms.
2. Describe how the material behaves just before and after this point.
3. Locate the elastic limit on the stress-strain diagram.
4. Share why this limit is important in design/safety.
5. Include a diagram and a key point summary.

Group 3: Yield Point

Tasks:

1. Define the yield point and describe what plastic deformation means.
2. Explain why mild steel shows a clear yield point.
3. Identify both upper and lower yield points (if applicable).
4. Mark this point on the stress-strain curve.
5. Explain the engineering significance of this stage.


Group 4: Ultimate Tensile Strength (UTS)

Tasks:

Time Allotted for Activity:

- Pre-class preparation: 50 Minutes
- 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