Department of Computer Science and Engineering.
Academic Year: 2024- 2025(Odd Semester)

Degree, Semester & Branch: B.E,III & EEE
Course Code & Title: CS3353 & C programming and Data Structure
Name of the Faculty member (s): Mrs.M.Dhivya, AP/CSE

Innovative Practice Description

- **Unit / Topic: Unit V / Sorting And Searching Techniques**
- **Course Outcome:** CO5
- **Topic Learning Outcome:** TLO13

Activity Chosen: Flipped classroom

- **Justification:** It is an instructional strategy where traditional teaching methods are reversed. Instead of the teacher delivering lectures during class time and assigning homework afterward, students are first introduced to new content outside of class, typically through videos, readings, or online resources. Then, class time is used for more interactive, hands-on activities such as problem-solving, discussions, group work, or applying the concepts learned.

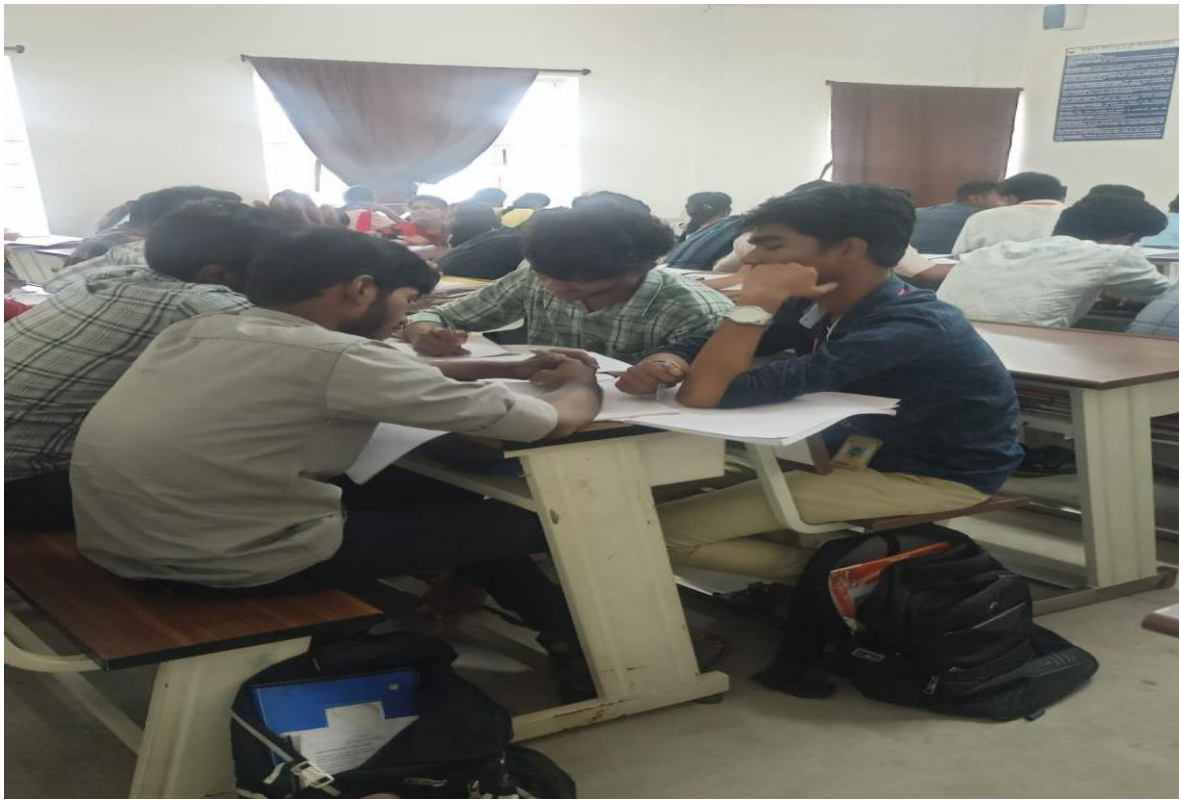
Time Allotted for the Activity: 20 Minutes

- **Details of the Implementation:**
  - The learning materials and video were posted to the students group two days before the topic discussion.
  - Students watch a pre-recorded lecture or complete reading assignments. This allows them to learn at their own pace and come prepared with any questions or challenges they might have encountered.
  - On the day of the activity the students were grouped into a team of 2 members and they are asked to discuss about the topic they learnt in their home through the study materials for the duration of 10 minutes.
  - Based on the study material they have gone through, the problems were given for each group separately and by discussing with their team members they have solved it.
  - After the discussion one member from each team had a chance to present and share the way of solving the problems to the entire class.
- **CO – PO / PSO mapping:**

CO	PO1	PO2	PO3	PO4	PO9	PO10	PSO1	PSO2
	3	3	2	2	1	2	2	2

Innovative practice	**PO1** 3	**PO2** **3**	**PO3** **2**	**PO4** **2**	**PO9** **2**	**PSO1** **2**	**PSO2** **2**
Justification for correlation	The students will learn the basic knowledge of engineering fundamentals to perform quick sorting.	The students will identify the relevant sorting algorithm for a given application.	Interpret the complex engineering problem with the help of sorting algorithms	The students can identify best sorting algorithm based on their analysis.	The students can do individually perform quicksort	The students can continued upgrading of technical knowledge using the concept of sorting.	The students able to implement different sorting algorithm in ICT applications

• Images / Screenshot of the practice:



Reflective Critique:

- **Feedback of practice from students and other stakeholders**:
  - ✓ Student felt good, since they can study at their own pace/time.
  - ✓ They felt that through such learning, they can explore more.
- **Benefit of the practice:**
  - ➢ Students can learn at their own pace, pausing and replaying lectures if needed
  - ➢ Classroom time is more interactive and hands-on, allowing students to actively engage with the material.
  - ➢ Teachers can focus more on guiding and supporting students through activities, rather than simply delivering content.
  - ➢ Research has shown that flipped classrooms can lead to better understanding and retention of material.
- **Challenges faced in implementation:**
  - ➢ Some students struggle with the requirement to be self-disciplined and complete pre-class work on their own. This can be challenging for students who may not have strong time management skills or find it difficult to learn without direct teacher instruction.
  - ➢ The depth of the subject can be dictated by the student themselves or the group the student is working with.
  - ➢ The time and effort required from a teacher's perspective initially when creating the flipped class material is higher than for a traditional class.

References:

- https://www.teachthought.com/learning/the-definition-of-theflippedclassroom/#:~:text=A%0 flipped%20classroom % 20is%20a,the% 20students%20in dependently%20at%20home.
- https://en.wikipedia.org/wiki/Flipped_classroom
- youtube.com/watch?v=BCIxikOq73Q
- https://omerad.msu.edu/teaching/teaching-skills-strategies/27-teaching/162-whatwhy-and-how-to-implement-a-flipped-classroom-model