



Department of Computer Science and Engineering

Academic Year 2024 – 2025 (Odd Semester)

Degree, Semester & Branch : III Semester B.E CSE - B

Course Code & Title : CS3352 & Foundations of Data Science

Name of the Faculty member : Mr. K.Vignesh Saravanan, AP / CSE

Innovative Practice Description

- Unit / Topic:** Unit II / Describing Data / Describing Data with Averages

- Course Outcome:** CO2

- Topic Learning Outcome:** TLO 4

- Activity Chosen:** Think-Pair-Share

- Justification:**

- Active learning strategy, in which students work on a problem posed by instructor, first individually (Think), then in pairs (Pair) or groups, and finally together with the entire class (Share).
- **T (Think):** Teacher asks a specific question about the topic. Students "think" about what they know or have learned, and come up with their own individual answer to the question. [Takes 1-3 Minutes].
- **P (Pair):** Teacher asks another question, related to the previous one that is suitable to deepen the students' understanding of the topic. Each student is paired with another student. They share their thinking with each other and proceed with the task. [Takes 5-10 Minutes].
- **S (Share):** Students share their thinking (or solution) with the entire class. Teacher moderates the discussion and highlights important points. [Takes 10-20 minutes].

- Time Allotted for the Activity:** 40 Minutes

- Details of the Implementation:**

- Think-Pair-Share innovative practice conducted for II year CSE students, after explanation of the concept of Frequency Distributions: Relative FDs, Cumulative FDs and Describing Data.
- First, I asked the students to think about Describing Data, describing data with Averages and formulas used for calculating the averages – mean, mode, median. The students applied the formula and try to identify the average values.
- Then I make them as a pair and share the calculation steps with their partners.
- Finally, I asked any two or three pairs to explain the concept to whole class for further discussion. Ms.Jane Gracy, Mr.Sarveshwar, II year CSE shared their ideas and knowledge of how data is described in tables and how to calculate the averages to all students as shown in Figure-1.

- CO – PO / PSO mapping:**

CO	PO1	PO2	PO3	PO8	PO9	PO10	PO12	PSO1
CO1	3	3	3	1	1	1	2	3

(1 – Low 2 – Moderate 3 – High)

- PO / PSO mapped:**

Innovative practice	PO1	PO2	PO3	PO9	PO10	PO12
	2	2	3	3	3	2

Justification for correlation	Apply basic Knowledge and fundamentals in describing data with averages	Identify the need of describing data with averages	Able to describe data with averages	Functional individually in describing data with averages	Communicate/ share the ideas with other students in written and oral presentation	Ability to solve problems with formulas through self-learning
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- **Images / Screenshot of the practice:**



Figure-1 Ms.Jane Gracy, Mr.Sarveshwar, II year CSE shared their ideas

- **Reflective Critique:**

- ❖ **Feedback of practice from students and other stakeholders:**

- Working as a pair, they can share their knowledge with them and come up with better understanding about the topic.
 - Different types of problem-based questions are discussed in the class room, so students come to know how to solve and calculate the averages and describe the data using formulas.

- ❖ **Benefit of the practice:**

- Students are actively engaged and students learn from each other.
 - Makes class interactive and builds a friendly, yet academic atmosphere.
 - Includes all the students in the teaching-learning process.

- ❖ **Challenges faced in implementation:**

- Students felt very difficult in this activity and could not complete in time whenever new real time system asked in the question.
 - Students are hesitating to speak in front of all.

References:

- ❖ <http://www.et.iitb.ac.in/TeachingResources.html>
- ❖ <https://www.readingrockets.org/strategies/think-pair-share>
- ❖ <https://www.wgu.edu/heyteach/article/how-think-pair-share-activity-can-improve-your-classroom-discussions1704.html>
- ❖ <https://serc.carleton.edu/introgeo/interactive/tpshare.html>