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(SG) / CSE

Innovative Practice Description

- **Unit / Topic: Unit V / Data Visualization /** Histograms and Legends
- **Course Outcome:** CO5
- **Topic Learning Outcome:** TLO 10
- **Activity Chosen:** Flipped Classroom
- **Justification:**

  Flipping the classroom is an inverting the classroom approach to teaching. In this approach, the traditional in-class teaching is "flipped" to better meet the needs of individual learners. Students gain control of the learning process through studying course material outside of class, using readings, pre-recorded video lectures. It helps the faculty/lecturer to redefine in-class activities and include homework problems and keep the students engaged in the content.

- **Time Allotted for the Activity:** 40 Minutes
- **Details of the Implementation:**
  - **Plan:** Basics of Data visualization - Histograms and Legends is given as self-learning through self-exploration and laboratory exercises. Separate student's teams are formed and made them to explore as a group.
  - **Identify and Share:** Related materials are identified and I posted relevant references/materials/notes of Data visualization - Histograms and Legends to the students and given as self-learning. Also book content is also shared with the students to explore more on Data visualization. Students are requested to make a PPT presentation of the Data visualization - Histograms and Legends. Ms.Jane Gracy, Ms.Anu Subiksha are requested to present the concepts they have learnt and share it to the entire class students.
  - **Evaluate:**
    - I have prepared few questions related to the content shared and ask those questions in next class session and make the students to write/present in class.
    - Make the students to find out the answer by their own by learning.
    - Ms.Jane Gracy, Ms.Anu Subiksha are appreciated and few suggestions are given to improve their presentation.

- **CO – PO / PSO mapping:**

CO	PO1	PO2	PO3	PO7	PO8	PO9	PO10	PO12	PSO1
CO1	3	3	3	1	1	1	1	2	3

(1 – Low 2 – Moderate 3 – High)

- **PO / PSO mapped:**

Innovative practice	**PO1**	**PO2**	**PO3**	**PO4**	**PO10**	**PO12**
	2	**2**	**3**	**3**	**3**	**2**
Justification for correlation	Apply basic Knowledge and fundamentals in Data visualization	Identify the need of Data visualization in Data Science process	Able to design and develop the various charts and graphs using Data visualization	Functional individually in identifying the representation of data with Data visualization methods	Communicate / share the ideas with other students in visualization the Data	Ability to reproduce the contents gathered through self-learning

- **Images / Screenshot of the practice:**

Screenshot of Ms.Jane Gracy, Ms.Anu Subiksha presenting concept of Histogram

- **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:***
    - More one-to-one time between teacher and student.
    - More collaboration time for students.
    - Students learn at their own pace.
    - Practical things – like missing class due to illness – become less problematic.
    - It encourages students to come to class prepared.
  - ***Challenges faced in implementation:***
    - Relies on student preparation – few students did not come prepared.
    - 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-the-flipped-classroom/#:~:text=A%20flipped%20classroom%20is%20a,the%20students%20independently%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-what-why-and-how-to-implement-a-flipped-classroom-model