Department of Information Technology

Academic Year 2024 – 2025 (Even Semester)

Degree, Semester & Branch : IV Semester B.Tech-IT
Course Code & Title : CS3492 & Database Management Systems
Name of the Faculty member : Mrs. A. Alagulakshmi, AP / IT

Innovative Practice Description

- **Unit / Topic: Unit II / Enhanced-ER Model**
- **Course Outcome:** CO2
- **Topic Learning Outcome:** TLO 4
- **Activity Chosen: Jigsaw Learning**
- **Justification:**

  ER modelling is essential in the conceptual design phase of any DBMS application. To instill a deeper understanding, each group of students is assigned a unique application. Students design an ER model for their respective application and later teach it to their peers. This Jigsaw Learning **a**pproach promotes both peer-to-peer and self-learning. It ensures each student takes ownership of the content and actively engages in knowledge sharing and discussion.

- **Time Allotted for the Activity:** 15 Minutes
- **Details of the Implementation:**

  After covering the concepts of the Entity-Relationship Model, ER Diagrams, and Enhanced-ER Model, students participated in a group-based learning exercise. The aim was to practically apply their understanding of ER modelling to real-world applications.

  - Group Formation: 10 groups, each consisting of 6 students.
  - Each student received a distinct application to model.
  - Instructions on creating ER diagrams were provided.
  - After completing their individual ER models, one student from each group joined an "Expert Group" for each application.

- **CO – PO / PSO mapping:**

CO	PO1	PO2	PO3	PO4	PO5	PO9	PO12	PSO1	PSO3
CO2	3	3	3	1	3	3	1	2	2

(1 – Low 2 – Moderate 3 – High)

- **PO / PSO mapped:**

Innovative practice	PO1	PO2	PO3	PO4	PO5	PO9	PO12	POS1	POS3
	3	3	3	1	3	3	1	2	2
Justification for correlation	Students can apply ER model fundamentals and normalization in problem-solving.	Students can effectively design databases and identify normalization requirements.	Students are capable of crafting application-specific database designs and solutions.	Students evaluate and convert ER models to relational schemas for sound conclusions.	Demonstrate use of research-based knowledge like ER modelling to achieve reliable results.	Students collaborate effectively to transform ER models into relational databases.	Understand the importance of ER model mapping and normalization in application development.	Demonstrate ER modelling skills to address complex database challenges.	Apply ER and normalization concepts to develop open-source software applications.

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

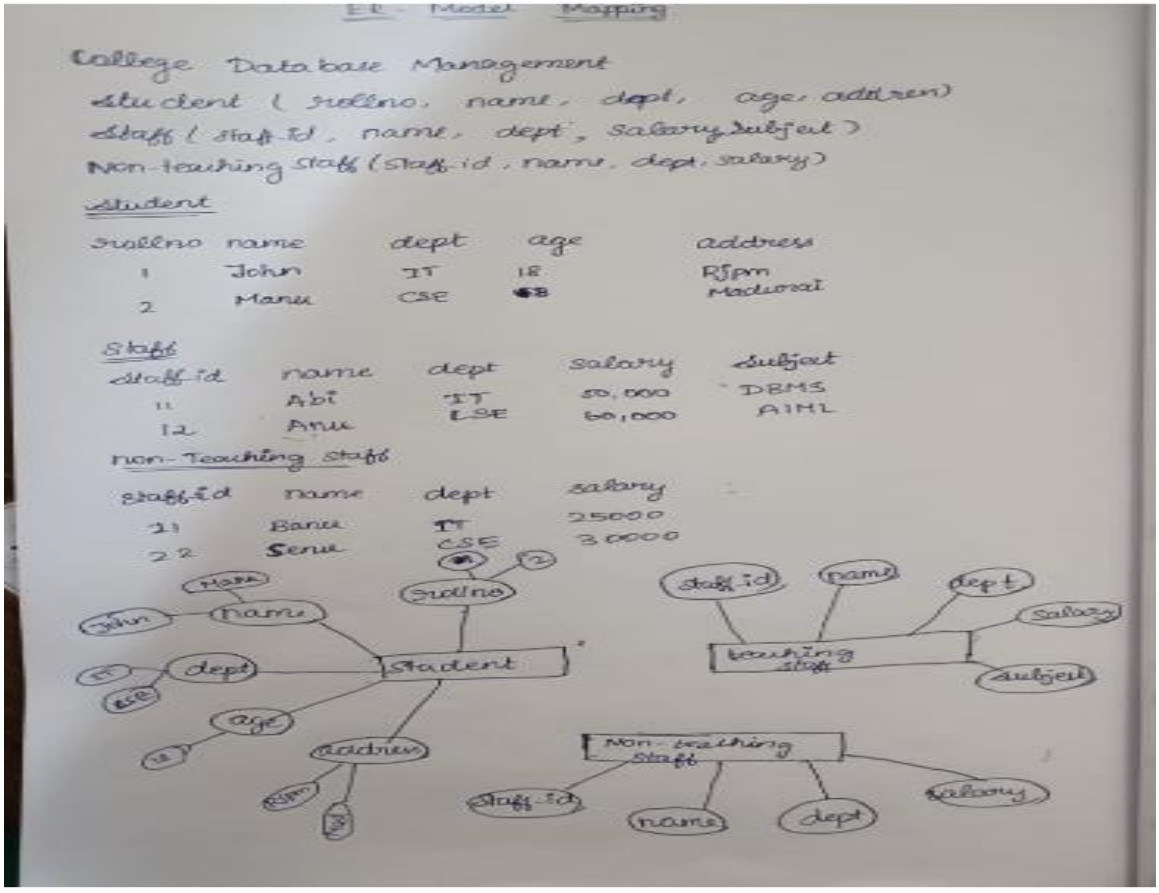

Figure 1: Sample of Jigsaw Learning activity

Figure 2: Student discussed with their team

- **Reflective Critique:**
  - ***Feedback of practice from students and other stakeholders:***
    - Students found the activity engaging and insightful.
    - They valued the chance to hone their teamwork and communication abilities, which are essential for future collaboration at work.
    - Students felt comfortable asking and answering questions in a peer-led environment.
  - ***Benefit of the practice:***
    - Encouraged teamwork and leadership through group-based learning.
    - Promoted better conceptual clarity by knowledge exchange among peers.
    - Helped students appreciate diverse applications of ER modelling in real-world scenarios.
  - ***Challenges faced in implementation:***
    - Original plan of 10 groups with 6 members each had to be modified.
    - Formation of expert groups was challenging due to inconsistent group sizes.

References:

- https://www.jigsaw.org/
- https://www.readingrockets.org/strategies/jigsaw
- https://www.youtube.com/watch?v=euhtXUgBEts

Signature of Faculty Member **HOD/IT**