Rayat Shikshan Sanstha's

Karmaveer BhauraoPatil College of Engineering, Satara

Department of Computer Science and Engineering

Academic Year 2025-26 Sem-VII

Innovative Pedagogical Activities

Course: Big Data Analytics A&B Div **Course Code: BTCOE703**

Pedagogy refers to a student centered **teaching** and learning (SCL) approach where educators are reflective in their theory, practice and policy implementation in **teaching**/learning, resulting to positive impacts in the learners.

Having a well-thought-out **pedagogy** can improve the quality of your **teaching** and the way students learn, helping them gain a deeper grasp of fundamental material. Being mindful of the way we **teach** can help us better understand how to help students achieve deeper **learning**.

Keeping in mind the importance of pedagogical approach we designed a pedagogy activity for the students. Pedagogy activity was posted on whats app group & On Gnomio Moodle Site , Google Classroom ,and sufficient time was given to the students to solve the activity.

Keywords:

Pedagogy Activities Details:

Sr. No	Name of the Activity	Unit	WhatsApp/ Online/offline	No of Students Successfully Completed
1.	Mind Map Activity	All Unit	Offline at College Classroom	100+
2.	WordWall Activity	2,3	College Classroom	45
3.	Online Quiz	All Units	Google classroom	120
4	Library Activity	All Unit	College Library	145

Innovative Tools: Wordall.com, Quizziz.com, Google Form, Jam board,animated Videos, PPT's, Google Meet

Prof.Monika Sonmale

Course Coordinator

Rayat Shikshan Sanstha's

Karmaveer BhauraoPatil College of Engineering, Satara

Department of Computer Science and Engineering

Activity No: 01

Name of the Activity:

Mind Map Activity on Unit–I

Mode of Conduction:

Offline – Classroom Activity

Course:

Big Data Analytics (B.Tech – CSE A &B)

Date of Conduction:

[Insert Date – e.g., 1st September 2025

Details of the Activity:

The **Mind Map Activity** is a creative and visual learning technique designed to help students **represent information, concepts, and relationships** in a structured and connected manner.

This activity enabled students to **map out new ideas**, **explore technical concepts in depth**, and **visualize interconnections** among different components of the subject. Using **diagrams, drawings, or visual imagery**, students related theoretical concepts from **Unit–I of Big Data Analytics** to **real-world scenarios**, often employing analogies to simplify complex technical topics.

The exercise encouraged students to demonstrate their understanding through a **creative visual representation**, promoting conceptual clarity and engagement.

Outcome:

By participating in the Mind Map Activity, students were able to:

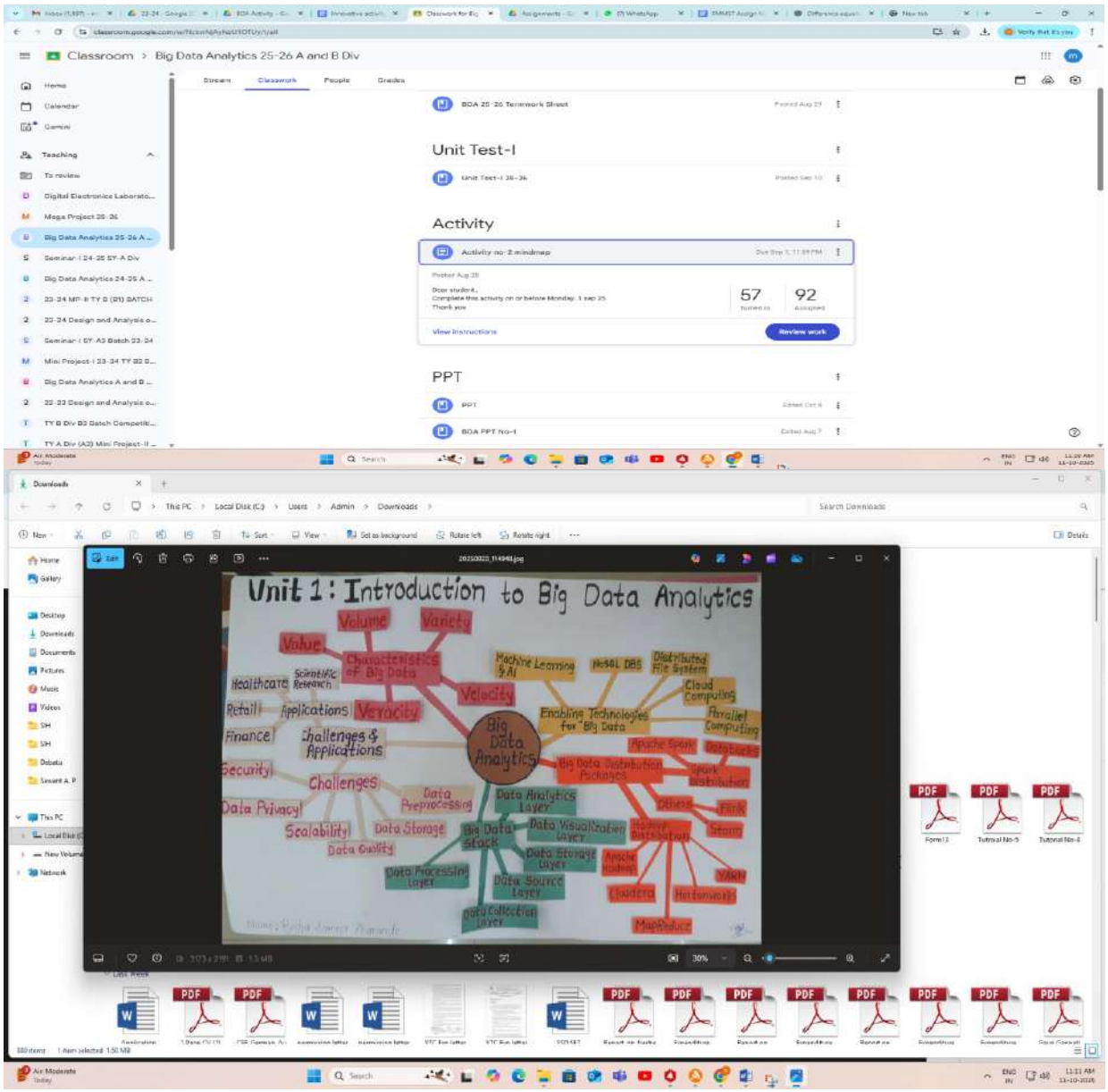
- **Visualize and organize** their thoughts, ideas, and knowledge about the given topic.
- **Structure** their understanding in a meaningful and interconnected way.
- **Communicate** complex concepts effectively through visual diagrams and logical flow.

Impact:

- **Improved Retention of Information:**
  Visual organization of ideas helped students **remember and recall** information more effectively, leading to enhanced academic performance.
- **Enhanced Critical Thinking Skills:**
  The process of mapping concepts promoted **analysis, synthesis, and identification of relationships** between ideas, strengthening students' critical thinking abilities.

- **Increased Creativity and Innovation:**
  By connecting theoretical and real-world ideas, students developed **creative thinking and innovative visualization skills**, applicable across various fields.
- **Greater Engagement and Motivation:**
  The activity encouraged **active participation and collaboration**, fostering peer learning, engagement, and enthusiasm in the classroom environment.

Screenshot of Mind Map Activity:



Name of the Student : Rucha Pharande Roll_No 32

Rayat Shikshan Sanstha's

Karmaveer BhauraoPatil College of Engineering, Satara

Department of Computer Science and Engineering

Activity No: 02

Activity Based Learning

Name of the activity: Spin the Wheel of terminologies

Date of conduction: 16 August 2025

Mode of conduction: Offline Classroom Activity

Details of the activity:

The activity titled **"Spin the Wheel of Terminologies"** was conducted as a part of the **Big Data Analytics** course to enhance student engagement and conceptual understanding through an interactive learning approach.

A digital **wheel containing various basic terminologies** related to Big Data Analytics was used. The wheel was spun, and wherever it stopped, the displayed terminology was selected. The student whose turn it was had to **explain the chosen term** in a clear and concise manner.

Students were called **sequentially by name** to ensure equal participation. For each terminology, **one volunteer** was also allowed to provide an additional explanation or example. A **'★' mark** was awarded for every correct or satisfactory explanation.

Link of the Game: https://wordwall.net/resource/23524771

Number of Students Participated:100+

Learning Outcome:

- Students learned the **meanings and significance of essential Big Data Analytics terminologies**.
- They developed **confidence in articulating technical concepts** clearly.
- The activity fostered **interactive and collaborative learning** within the classroom.

Impact:

This activity helped students to:

- **Build their technical vocabulary** related to Big Data Analytics.
- **Strengthen conceptual understanding** by explaining terms in their own words.
- **Enhance critical thinking and problem-solving skills** through the application of learned concepts.

- **Improve communication and presentation abilities**, making them more confident during technical discussions.

-

Rayat Shikshan Sanstha's

Karmaveer BhauraoPatil College of Engineering, Satara

Department of Computer Science and Engineering

Activity No: 03

Online Quiz Activity

Activity Type: Unit-wise Online Quiz

Objective:

To evaluate students' understanding and conceptual clarity of each unit in *Big Data Analytics* through short, focused online quizzes. This activity encourages regular study habits, immediate feedback, and active engagement with course content.

Activity Details:

- **Mode:** Online (via Google Forms linked through Google Classroom)
- **Participants:** All students of B.Tech CSE Division A & B
- **Number of Quizzes:** 5 (One quiz per unit of the syllabus)
- **Duration per Quiz:** 15–20 minutes
- **Question Format:** Multiple Choice Questions (MCQs) & Short Conceptual Questions
- **Total Marks per Quiz:** 10 marks
- **Attempt Policy:** Each student allowed one submission per quiz
- **Submission Deadline:** As per schedule shared in Google Classroom

---

Implementation Process:

1. Quizzes for **all five units** were created using **Google Forms**.
2. Each quiz link was **shared through Google Classroom** to both A and B divisions.
3. Students accessed and solved the quizzes within the given time frame.
4. After submission, **automatic grading** was enabled for objective-type questions.
5. Faculty reviewed responses and discussed common errors and clarifications in class.

Outcome:

- All enrolled students from both divisions **actively participated** in the activity.
- The activity helped in **reinforcing key concepts** from each unit of the subject.
- The online format enabled **instant feedback** and easy performance tracking.
- The quiz analytics provided insight into topics requiring further explanation.

Conclusion:

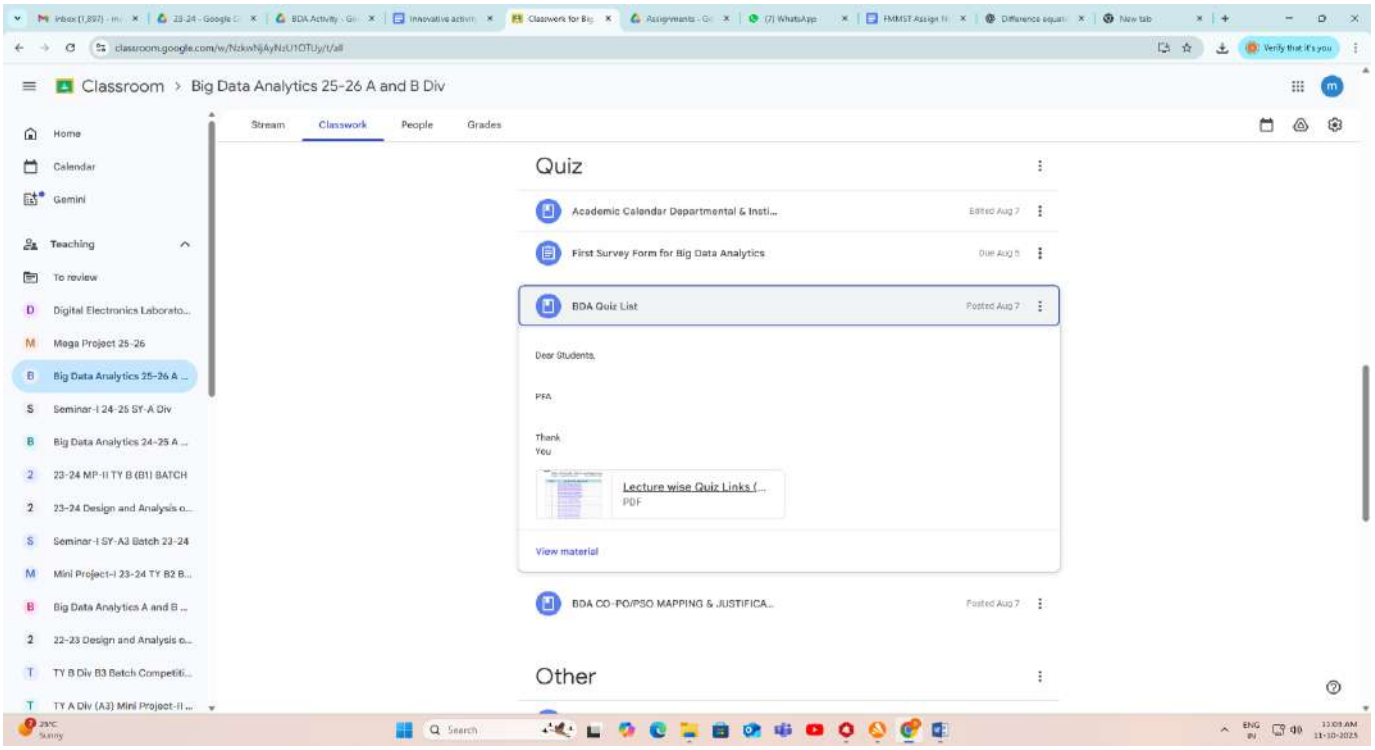
The Online Quiz Activity successfully enhanced students' engagement and conceptual understanding of **Big Data Analytics**. Conducting unit-wise quizzes proved to be an effective continuous assessment tool and promoted consistent learning among students.

Rayat Shikshan Sanstha's

Karmaveer BhauraoPatil College of Engineering, Satara

Department of Computer Science and Engineering

- **Screenshot Online Quiz Activity:**



Rayat Shikshan Sanstha's

Karmaveer BhauraoPatil College of Engineering, Satara

Department of Computer Science and Engineering

Activity No: 04

Name of the Activity:

Library Activity – Case Study on Big Data Analytics

Date of Conduction:

Conducted on 6th October 2025

Mode of Conduction:

Offline – Library-Based Learning Activity

Details of the Activity:

A **Library-Based Learning Activity** was organized for **B.Tech CSE – Big Data Analytics** students to encourage independent research and analytical skills development. The activity aimed to help students explore **recent advancements, case studies, and practical applications** of Big Data Analytics by utilizing library resources.

A total of **145 students** participated in this activity, conducted on **alternative days** — with **Division A and Division B** attending on separate days to ensure proper guidance and effective engagement.

During the session, students were instructed to:

- Search and study **different journal papers, research articles, or magazines** related to Big Data Analytics.
- Select one relevant topic or application area and analyze it in depth.
- Write a **case study or summary report** based on the chosen paper or article.
- Submit the completed case study **within the assigned deadline** through Google Classroom or in hard copy format.

The activity provided a hands-on research experience and helped students bridge the gap between theoretical knowledge and practical applications in the domain of Big Data.

Number of Students Participated:

145 (Division A & B)

Learning Outcome:

- Students developed the ability to **search, review, and analyze** scholarly and technical resources related to Big Data Analytics.
- They gained exposure to **real-world applications, challenges, and innovations** in the field.
- Students improved their **research writing and case study documentation skills**.
- The activity promoted **independent learning and critical thinking**.

Rayat Shikshan Sanstha's

Karmaveer BhauraoPatil College of Engineering, Satara

Department of Computer Science and Engineering

Impact:

- Encouraged students to **engage with authentic and updated sources** of technical information.
- Enhanced their **analytical and problem-solving skills** by connecting theory to practice.
- Strengthened their **research orientation** and understanding of current trends in Big Data Analytics.
- Fostered **self-directed learning habits** and **academic curiosity** among students.
- **Screenshot of Library-Based Learning Activity:**