



**Dr. D. Y. Patil**  
**Founder, Dr. D. Y. Patil Group**

**Dr. Sushant Patil**  
**President, DYPEF**

**Dr. Suresh Mali**  
**Principal, DYPCOEI**

**Innovations by the Faculty in Teaching and Learning:**

**Innovative Teaching Methods-2023-24**

Sr. No.	Name of Teacher	Name of Course	Semester	Innovative Category (PBL/ABL/EL/TEBL)	Innovative Method	Available on Website
1	Dr. Jagruti Panchal		Sem-I			Yes
			Sem-II			Yes
2	Dr. Deepali Sale	DELD	Sem-I	PBL	Idea Demonstration	Yes
			Sem-II			Yes
4	Mr. T. Arivanantham		Sem-I			Yes
			Sem-II			Yes
5	Mrs. Abha Pathak	WT	Sem-I	TEBL	Social Media	Yes
			Sem-II			Yes
6	Mrs. Anita Shinkar		Sem-I			Yes
			Sem-II			Yes
7	Mr. Chandan Wagh	CC	Sem-I	ABL	Group Discussion	Yes
			Sem-II			Yes
8	Mr. Laxmikant Malphedwar	Cross-Curricular Integration	Sem-I	TEBL	Educational Blog Platform	Yes
			Sem-II			Yes
9	Mr. Sunil Yadav	DBMS	Sem-I	PBL	Mini Project	Yes
		DSBDA	Sem-II	BL	YouTube Channel	Yes
10	Ms. Snehal Mangale	OOP	Sem-I	ABL	Flipped Classroom	Yes
		SE	Sem-II	ABL	Brainstorming	Yes
11			Sem-I	ABL	Hackathon	Yes



**Dr. D. Y. Patil**  
**Founder, Dr. D. Y. Patil Group**

**Dr. Sushant Patil**  
**President, DYPEF**

**Dr. Suresh Mali**  
**Principal, DYPCOEI**

	Mr. Vishal Borate	ML	Sem-II	TEBL	Google Classroom	Yes
12	Mr. Sagar Dhanke	BI	Sem-I	TEBL	YouTube video	Yes
		CSDF	Sem-II	TEBL	YouTube video	Yes
13	Mr. Santosh Kawade	BCT	Sem-I	TEBL	YouTube video	Yes
			Sem-II			Yes
14	Dr. Sopan Shinde		Sem-I			Yes
			Sem-II			Yes
15	Mrs. Poonam Sadafal	CNS	Sem-I	TEBL	YouTube Video	Yes
			Sem-II			Yes
16	Mr. Sharad Jadhav	DL	Sem-I	TEBL	NPTL/Moo c Based Learning	Yes
			Sem-II			Yes
17	Ms. Aradhana Pawar		Sem-I			Yes
			Sem-II			Yes
18	Mr. Dnyanesh Gaikwad	PBL II	Sem-I	PBL	Miniproject Implementation	Yes
		DAA	Sem-II	TEBL	Google Classroom for Design & Analysis of Algorithm	Yes
19	Ms. Anamika Wasnik	DSA	Sem-I	TEBL	Google Classroom	Yes
			Sem-II			Yes
20	Ms. Nikita Oswal	FDS	Sem-I	ABL	YouTube Channel	Yes
			Sem-II			Yes
21	Ms. Shubhangi Kshirsagar	TOC	Sem-I	ABL	QUIZ	Yes
			Sem-II			Yes
22	Ms. Swapnanjali Thorgule		Sem-I			Yes
			Sem-II			Yes



**Dr. D. Y. Patil**  
**Founder, Dr. D. Y. Patil Group**

**Dr. Sushant Patil**  
**President, DYPEF**

**Dr. Suresh Mali**  
**Principal, DYPCOEI**

23	Ms.Chaitali Sartape	DBMS	Sem-I	TEBL	Google Classroom	Yes
		DSAL	Sem-II	TEBL	Virtual Lab	Yes
24	Dr.Mondal Dipannita		Sem-I			Yes
						Yes
25.	Mrs.Asmita Mali					Yes
						Yes
26	Mr.Promad Deshmukh					Yes
						Yes
27	Mr.Santosh Naggoje					Yes

**PBL – Project Based Learning**  
**EL – Experimental Learning**

**ABL – Activity Based Learning**  
**TEBL - Technology Enhanced Blended Learning**

**Head of Department**  
**Dr. Alpana Adsul**

**Principal**  
**Dr. Suresh Mali**



**Dr. D. Y. Patil**  
Founder, Dr. D. Y. Patil Group

**Dr. Sushant Patil**  
President, DYPEF

**Dr. Suresh Mali**  
Principal, DYP COEI

### **Innovations by the Faculty in Teaching and Learning**

**Category of Innovation method:** Project Based Learning

**Title of Innovation method:** Idea Demonstration

**Faculty / Inventor:** Dr. Deepali Sale

**Course Name and Code:** Digital Electronics and Logic Design Lab (210249))

**Class and Division:** SE A, B, C Division

**Goals / objective of the method:**

1. To understand fundamentals and functionality of electronic circuits.
2. Design and implement combinational circuits like MUX, comparator, adder/subtractor.
3. Design and implement sequential circuits like flip-flop, registers and counters using different integrated circuits.

**Topic covered:** Basic concepts DELD Experiments.

**Description of method (8 – 10 lines):**

1. A Digital Electronics Lab is a laboratory that provides students with hands-on experience with digital electronics.
2. Understand the working of digital electronics circuits.
3. Verify the Truth Tables of logic gates such as AND, OR, NAND, NOR, Exclusive-OR, and Exclusive-NOR.
4. Design and implement Sequential and Combinational digital circuits as per the specification.
5. To understand basic concepts of binary, subtraction, multiplication, division.
6. To apply knowledge of conversion techniques.
7. To enhanced efficient design of computer-based system of varying complexities

**Benefits of the method:**

To enhance

1. Engineering knowledge.
2. Professional skills
3. Problem Solving Skill.
4. Successful Career and Entrepreneurship.

**For review and critique contact:** [depali.sale@dypcoei.com](mailto:depali.sale@dypcoei.com)



Scan for Proof



**Dr. D. Y. Patil**  
Founder, Dr. D. Y. Patil Group

**Dr. Sushant Patil**  
President, DYPEF

**Dr. Suresh Mali**  
Principal, DYPCOEI

### **Innovations by the Faculty in Teaching and Learning**

**Category of Innovation method:** Technology Enhanced Blended Learning

**Title of Innovation method:** Transforming Education through Social Media

**Faculty / Inventor:** Mrs. Abha Pathak

**Course Name and Code:** Web Technology

**Class and Division:** TE (B)

**Goals / objective of the method:** Sharing Material, provide immediate feedback on assignments and resolve student's queries through WhatsApp.

**Topic covered:** HTML (Hypertext Markup Language) structure, defining elements like text, images, links, and multimedia for web pages.

**Description of method (8 – 10 lines):** The WhatsApp method for learning involves sharing Question bank, assignments, study materials, notes, and tutorials with students to help them understand key concepts. It is useful to discuss student's queries directly through WhatsApp, and provide instant solutions or sample answers after submission, ensuring immediate feedback. Students can receive real-time clarifications and corrections for any queries they have. Group collaboration is encouraged as students can form study groups, share ideas, and discuss solutions in group chats, promoting collaborative learning. WhatsApp also facilitates interactive communication where students can ask questions, receive feedback, and engage in discussions with teachers and peers. With the flexibility to access lessons, assignments, and solutions anytime, WhatsApp makes learning more convenient and accessible for students, providing an efficient platform for instant feedback and interactive learning.

**Benefits of the method:**

- Instant Communication
- Accessibility
- Peer Learning
- Increase student engagement
- Real Time Assistant

**For review and critique contact:** [abha.pathak@dypatilef.com](mailto:abha.pathak@dypatilef.com)



Scan for Proof



**Dr. D. Y. Patil**  
Founder, Dr. D. Y. Patil Group

**Dr. Sushant Patil**  
President, DYPEF

**Dr. Suresh Mali**  
Principal, DYPCOEI

## **Innovations by the Faculty in Teaching and Learning**

**Category of Innovation method:** Activity Based Learning

**Title of Innovation method:** Group Discussion

**Faculty / Inventor:** Mr. C. S. Wagh

**Course Name and Code:** Cloud Computing (410253-C)

**Class and Division:** TE (A&B)

**Goals / objective of the method:** Group Discussion is a technique where the group of participants share their views and opinions on a virtualisation for specific duration. Companies check GD how well student can talk about topic at least 5 to 10 min

**Topic Covered:** Virtualization in cloud computing

**Description of method (8 – 10 lines):**

1. Faculty Explains about virtualization technique in cloud computing. How to use hypervisor technique for implementation of virtualization in the classroom for 35 minutes.
2. After that revise this topic within 5 minutes
3. At the end of class, students are instructed to form groups to discuss and debate on virtualization and its role in cloud computing
4. Faculty monitors this proceedings and measure students' progress before and after implementation.

**Benefits of the method:**

Group discussions promote deeper understandings of how virtualization aids in process of overall cloud computing and how Hypervisor 1, Hypervisor 2 works.

**For review and critique contact:** [chandan.wagh@dypatilef.com](mailto:chandan.wagh@dypatilef.com)

**Review and critique**

Students are excited with mentioned topic want to go deep in that topic. Want to know types of virtualizations. The various types of virtualisations include application virtualisation, network virtualisation, desktop virtualisation, storage virtualisation, server virtualisation, and data virtualisation, each offering distinct advantages and applications. So in upcoming lectures types of virtualisation covered.

**Action taken based on review and critique:**

Types of virtualisations covered in next lecture



**Scan for Proof**



**Dr. D. Y. Patil**  
Founder, Dr. D. Y. Patil Group

**Dr. Sushant Patil**  
President, DYPEF

**Dr. Suresh Mali**  
Principal, DYPCOEI

## Innovations by the Faculty in Teaching and Learning

**Category of Innovation method:** TEBL

**Title of Innovation method:** Enhancing Learning Through an Educational Blog Platform

**Faculty / Inventor:** Mr. Laxmikant Malphedwar

**Course Name and Code:** Cross-Curricular Integration (Applied to Multiple Courses)

**Class and Division:** All Divisions of Computer Engineering

**Goals / objective of the method:**

1. To provide a digital repository of innovative teaching practices and resources for students and peers.
2. To foster a habit of self-directed learning through interactive content.
3. To create a platform for sharing academic insights, experiences, and resources.

**Topic covered:** A broad range of topics including Database Management Systems, Software Engineering, Data Science and Big Data Analytics.

**Description of method:**

The blog, [laxmikantsm.wordpress.com](http://laxmikantsm.wordpress.com), serves as a dynamic educational resource. It features articles, teaching innovations, case studies, and best practices in engineering education. Posts are curated to address current curriculum topics, practical applications, and academic trends. Students and faculty can access tutorials, real-world examples, and thought-provoking discussions. The interactive comment section encourages collaborative learning by allowing readers to share their feedback, experiences, and questions. Regular updates ensure the blog remains relevant to evolving academic and industry needs.

**Benefits of the method:**

1. Provides a readily accessible knowledge-sharing platform.
2. Enhances student's learning experiences by complementing classroom instruction.
3. Encourages peer-to-peer learning through discussions and comments.
4. Promotes lifelong learning by integrating academic and industry perspectives.
5. Serves as a professional development tool for educators and learners.

**For review and critique contact:** [laxmikant5656@gmail.com](mailto:laxmikant5656@gmail.com)

**Action taken based on review and critique:**

Feedback emphasized the importance of including more multimedia content like videos and info graphics. Adding important question bank. These have been added to enhance visual learning.



Scan for Proof





**Dr. D. Y. Patil**  
Founder, Dr. D. Y. Patil Group

**Dr. Sushant Patil**  
President, DYPEF

**Dr. Suresh Mali**  
Principal, DYPCOEI

### **Innovations by the Faculty in Teaching and Learning**

**Category of Innovation method:** Project Based Learning

**Title of Innovation method:** Using Database Concept develop an application

**Faculty / Inventor:** Mr. Sunil Kumar Yadav

**Course Name and Code:** Database Management System (310241)

**Class and Division:** TE (B)

**Goals / objective of the method:** To acquire the knowledge of database query using Frontend/Backend

**Topic covered:** Mini Project

**Description of method (8 – 10 lines):**

For DBMS course, I've given students a task to create Mini Project on DBMS using front end and back-end concepts. Students prepared the video presentations Finally; they need to play the video presentation in front of entire class about the assigned task. In each mini project there are three to four members. It is a group activity. In this activity the students can develop their presentation skills and also enhance communication skills.

**Benefits of the method:**

With the help of presentation students will be able to design and develop application considering actual requirement and database concepts. Their fundamental concept will be clear. Some slow Lerner students will know the presentation skills. After watching this presentation students knows about advance database concept.

**For Review and Critique contact:**

1.[sunil.yadav@dypatilef.com](mailto:sunil.yadav@dypatilef.com)

2.<https://forms.gle/j533oUvNX8twEaUFA>

**Action taken based on review and critique:**

There are some suggestions came from student's frond end and back-end connectivity should be clear more. In lab session of database management system, I have explained connectivity of java with database with suitable example. So, the students understood and executed query on GUI. Some students also suggest for advance database connectivity program. With the help of experiment demonstrated them connectivity of MONGODB and Java.



Scan for Proof





**Dr. D. Y. Patil**  
Founder, Dr. D. Y. Patil Group

**Dr. Sushant Patil**  
President, DYPEF

**Dr. Suresh Mali**  
Principal, DYPCOEI

### **Innovations by the Faculty in Teaching and Learning**

**Category of Innovation method:** Blended Learning

**Title of Innovation method:** Using Blended Learning understanding the Concept of Performance Metrics in Data Science

**Faculty / Inventor:** Mr. Sunil Kumar Yadav

**Course Name and Code:** Data Science and Big Data Analytics (310251)

**Class and Division:** TE (B)

**Goals / objective of the method:** To understand computational statistics in Data Science

**Topic covered:** Basic Concept of performance Metrics, Accuracy, Precision, Recall

**Description of method (8 – 10 lines):**

In Data Science & Big Data Analytics course, I've made a video on Performance Metrics topics of data science and asked students to watch the video and come in the class. This lecture explains the concept of all metrics related to performances like Accuracy of Model and Precision and Recall. After watching this video, the students are able to apply statistics for Big Data Analytics. They can develop Machine Learning Model with using data set.

**Benefits of the method:**

With the help of video lecture students will be able to design and develop accurate model considering actual requirements. All students get cleared fundamental concept. Students get knows about formula of performance metrics and practically applied this formula to develop machine learning model. They get open environment in the class to discuss key points with the help of example.

**For Review and Critique contact:**

1. [sunil.yadav@dypatilef.com](mailto:sunil.yadav@dypatilef.com)

2. <https://forms.gle/DdyQbDJ3cBhyn5AYA>

**Action taken based on review and critique:**

There are some suggestions came from student's there is need more explanation regarding some formula's frond. In lab session of data science and big data analytics lab, I have explained example with using Kaggle data set. So, the students understood and develop a model. Some students also suggest for advance methods. With the help of experiment demonstrated them model.



Scan for Proof



**Dr. D. Y. Patil**  
Founder, Dr. D. Y. Patil Group

**Dr. Sushant Patil**  
President, DYPEF

**Dr. Suresh Mali**  
Principal, DYPCOEI

## Innovations by the Faculty in Teaching and Learning

**Category of Innovation method:** Activity Based Learning

**Title of Innovation method:** Flipped Classroom

**Faculty / Inventor:** Ms. Snehal Mangale

**Course Name and Code:** Object Oriented Programming (210243)

**Class and Division:** SE (A, B)

**Goals / objective of the method:**

1. Promote Active Learning
2. Improve Understanding of concepts
3. Maximize Classroom Time
4. Foster Self-Paced Learning

**Topic covered:** Need of Object-Oriented Programming, History and Advancements

**Description of method (8 – 10 lines):**

A flipped classroom is an instructional approach where traditional learning methods are reversed. Instead of listening to lectures during class and doing assignments at home, students can learn new content at home through videos, readings, or interactive materials. They get engaged in interactive, hands-on activities during class to apply their knowledge, ask questions, and collaborate with peers. This method shifts the focus from passive to active learning, enabling students to take ownership of their education.

**Benefits of the method:**

- Classroom time is spent solving problems, engaging in discussions, and working on real-world applications.
- Group activities promote teamwork and communication skills.
- Teachers have more time to address individual student needs.

**For review and critique contact:** [snehal.mangale@dypatilef.com](mailto:snehal.mangale@dypatilef.com)

**Review and Critique:**

Some students from rural area were unable to access learning materials and couldn't complete pre-class assignment due to lack of internet facility. Remaining students has used this method as an opportunity to understand, present and to build confidence about topic.

**Action taken based on review and critique:**

Students who had faced internet issue, they were asked to use digital library during library hours. After using facility of digital library, they became ready to present the topic in next subsequent lecture.



Scan for Proof



**Dr. D. Y. Patil**  
Founder, Dr. D. Y. Patil Group

**Dr. Sushant Patil**  
President, DYPEF

**Dr. Suresh Mali**  
Principal, DYPCOEI

### Innovations by the Faculty in Teaching and Learning

**Category of Innovation method:** Activity Based Learning

**Title of Innovation method:** Brainstorming

**Faculty / Inventor:** Ms. Snehal Mangale

**Course Name and Code:** Software Engineering (210253)

**Class and Division:** SE (A, B)

**Goals / objective of the method:**

1. Actively engage students
2. Promote critical thinking
3. Create a collaborative learning environment.

**Topic covered:** Requirement gathering and analysis

**Description of method (8 – 10 lines):**

Brainstorming session encourages students to analyze problems, think creatively, and explore multiple solutions. Students actively participate in generating ideas, which keeps them engaged and fosters a deeper understanding of the subject. It provides a platform for students to think freely and come up with innovative ideas without fear of being judged. Also, it promotes teamwork as students work together to share and refine ideas.

**Benefits of the method:**

- Fosters Problem-Solving Skills
- Engages Diverse Learners
- Encourages Ownership of Learning
- Encourages Collaboration
- Develops Communication Skills

**For review and critique contact:** [snehal.mangale@dypatilef.com](mailto:snehal.mangale@dypatilef.com)

**Review and Critique:**

Students had enjoyed brainstorming session as they get chance to share their ideas and to express on hypothetical and real issues. Students who were less confident or having poor communication skill, became more expressive. Students had asked for how to differentiate between group discussion and brainstorming session.

**Action taken based on review and critique:**

Differentiation in GD and brainstorming session was explained to students.



Scan for Proof



**Dr. D. Y. Patil**  
Founder, Dr. D. Y. Patil Group

**Dr. Sushant Patil**  
President, DYPEF

**Dr. Suresh Mali**  
Principal, DYPCOEI

## Innovations by the Faculty in Teaching and Learning

**Category of Innovation method:** Technology Enhanced Blended Learning

**Title of Innovation method:** YouTube Video

**Faculty / Inventor:** Mr. Sagar Dhanake

**Course Name and Code:** Elective-VI (Business Intelligence) (410253(C))

**Class and Division:** BE (Division: A and B)

**Goals / objective of the method:** Reporting Authoring basics, Visual Storytelling and Encourage Better Business Decision-Making

**Topic covered:** Reporting Tools, Report Creation, Report Customization Techniques, and Real-World Applications of Reporting

**Description of method (8 – 10 lines):**

Reporting authoring is the process of creating, designing, and delivering data-driven reports that help businesses make informed decisions. The method of reporting authoring is not just about creating a report—it's about crafting a compelling narrative from data, ensuring that every report serves a strategic purpose. Gathering data from various sources that will form the foundation of your report. Once data is collected, it must be analysed to uncover insights that will guide the report's narrative. The method involves selecting the best charts, graphs, and tables that visually represent the data and support the narrative. After creating the initial report, it's crucial to review it for accuracy, clarity, and relevance. Once the report is complete, the next step is sharing it with the intended audience. Modern BI tools allow for easy sharing, whether through email, embedded dashboards, or direct access to cloud-based reporting platforms.

**Benefits of the method:**

Reporting authoring is not just about creating reports; it's about transforming raw data into actionable insights that drive business decisions. The Reporting Authoring method is essential for organizations looking to turn raw data into actionable insights. By automating, customizing, and visualizing data, businesses can improve decision-making, increase accuracy, and save time, all while ensuring that stakeholders at every level have the information they need to succeed.

**For review and critique contact:** [sagar.dhanake@dypatilef.com](mailto:sagar.dhanake@dypatilef.com)

**Review and critique:**

Improved Decision-Making: Reporting authoring helps businesses make better, more informed decisions by providing clear, easy-to-interpret insights.

**Action taken based on review and critique:**

1. Added Practical Demonstrations and Visuals
2. Acknowledged Common Reporting Challenges
3. Increased Engagement with Interactive Prompts
4. Simplified Complex Concepts for Clarity



Scan for Proof



**Dr. D. Y. Patil**  
Founder, Dr. D. Y. Patil Group

**Dr. Sushant Patil**  
President, DYPEF

**Dr. Suresh Mali**  
Principal, DYPCOEI

## Innovations by the Faculty in Teaching and Learning

**Category of Innovation method:** Technology Enhanced Blended Learning

**Title of Innovation method:** YouTube Video

**Faculty / Inventor:** Mr. Sagar Dhanake

**Course Name and Code:** Elective-VI (Cyber Security and Digital Forensics) (410244(C))

**Class and Division:** BE (Division: A and B)

**Goals / objective of the method:** A blend of visuals showing digital data, fingerprints, and investigators analysing devices.

**Topic covered:** Computer Forensics services and technology

**Description of method (8 – 10 lines):**

Step into the world of digital forensics, where technology meets investigation! In this video, we'll explore the methods used to uncover, analyse, and preserve digital evidence. From cracking encrypted files to tracing cybercriminals, you'll learn the step-by-step process that digital forensic experts follow. Whether you're a curious learner or an aspiring investigator, this guide will help you understand the fascinating techniques behind solving cybercrimes and protecting digital data. We'll break down the tools and techniques used by experts and show real-world examples of how digital forensics helps solve crimes and protect organizations. Perfect for anyone new to the field or just curious about how technology can help uncover the truth. Let's dive in and decode the digital world together.

**Benefits of the method:**

YouTube is one of the largest platforms globally, with billions of active users. Digital forensics methods help retrieve lost, deleted, or corrupted data, which can be crucial for businesses, law enforcement, and individuals. These methods enable experts to uncover evidence of hacking, phishing, or fraud, helping to identify and prosecute cybercriminals. By preserving digital evidence securely and accurately, forensic methods ensure that it holds up in court during legal proceedings.

**For review and critique contact:** [sagar.dhanake@dypatilef.com](mailto:sagar.dhanake@dypatilef.com)

**Review and critique:**

1. The video outlines the benefits in an organized and logical manner, making it easy for viewers to follow.
2. The mention of real-world applications adds relevance and value for the audience.

**Action taken based on review and critique:**

1. For "Protecting Organizations," included how digital forensics can detect insider threats like unauthorized data transfers.
2. For "Incident Response and Damage Control," described a scenario of tracing the origin of a ransomware attack to prevent further breaches.
3. Added a brief explanation of forensic imaging as a foundational method for preserving digital evidence.



Scan for Proof





**Dr. D. Y. Patil**  
Founder, Dr. D. Y. Patil Group

**Dr. Sushant Patil**  
President, DYPEF

**Dr. Suresh Mali**  
Principal, DYPCOEI

## **Innovations by the Faculty in Teaching and Learning**

**Category of Innovation method:** Technology Enhanced Blended Learning

**Title of Innovation method:** Youtube

**Faculty / Inventor:** Mr. Santosh Kawade

**Course Name and Code:** Block-Chain Technology

**Class and Division:** BE (A and B)

**Goals / objective of the method:** Basic of Feature Engineering, as centralized and decentralized System.

**Topic covered:** Why Blockchain is important.

**Description of method (8 – 10 lines):**

Blockchain is a revolutionary technology that underpins cryptocurrencies and extends its utility to numerous industries due to its unique properties. It operates as a decentralized, secure, and transparent ledger system, offering advantages in data management, trust-building, and operational efficiency. Key Reasons Why Blockchain is Important such as Decentralization, Enhanced Security, Transparency and Trust, Efficiency and Speed, Decentralized Applications (DApps), Cost Reduction etc.

**Benefits of the method:**

Students are able to understand the why Blockchain is important? It addresses critical challenges in traditional systems, such as trust, security, transparency, and efficiency. Its transformative potential extends beyond Cryptocurrency, influencing industries like finance, healthcare, logistics, and governance, and paving the way for innovative solutions to modern problems.

**For review and critique contact:** [santosh.kawade@dypcoei.com](mailto:santosh.kawade@dypcoei.com)

**For review and critique:** Voice is not clear and less explanation.

**Action taken based on review and critique:** Based on the review and critique of centralized and decentralized systems, several actions can be taken to optimize the understanding, implementation, and application of these systems across different domains. These actions can be grouped into educational improvements, design enhancements, and practical considerations for both centralized and decentralized systems.



Scan for Proof



**Dr. D. Y. Patil**  
Founder, Dr. D. Y. Patil Group

**Dr. Sushant Patil**  
President, DYPEF

**Dr. Suresh Mali**  
Principal, DYP COEI

### **Innovations by the Faculty in Teaching and Learning**

**Category of Innovation method:** Technology Enhanced Blended Learning

**Title of Innovation method:** YouTube

**Faculty / Inventor:** Mrs. Poonam Sadafal

**Course Name and Code:** CNS (Computer Network and Security) (310244)

**Class and Division:** TE (B)

**Goals / objective of the method:** To understand the concept of socket address in Transport Layer

**Topic covered:** Socket Address

**Description of method (8 – 10 lines):**

Blended learning combines the best of online and face-to-face teaching. By using YouTube as a tool in this approach, educators can create an engaging and flexible learning experience. Teachers can upload videos to explain lessons, demonstrate concepts, or provide extra resources. Students can watch these videos anytime, review them as needed, and learn at their own pace. In the classroom, teachers can focus on discussions, hands-on activities, and problem-solving, building on what students learned from the videos. YouTube also allows for interactive elements like quizzes, comments, and live sessions to keep students involved. This method makes learning more accessible, fun, and effective for everyone!

**Benefits of the method:**

1. Flexible Learning
2. Engaging and Visual Content
3. Personalized Learning
4. Improved Classroom Interaction

**For review and critique contact:** [poonam.sadafal@dypcoei.com](mailto:poonam.sadafal@dypcoei.com)

**Review**

1. Less Explanation about topic
2. Voice is not clear

**Action taken based on review and critique:**

Created new video on same topic and uploaded on you tube.

Feedback Form Link: <https://forms.gle/8NaKgdsKN86fXUFi8>



Scan for Proof





**Dr. D. Y. Patil Educational Federation's**  
**Dr. D. Y. PATIL COLLEGE OF ENGINEERING & INNOVATION**  
Survey No. 27/A/1/2C, Varale Campus, Near Talegaon Railway Station,  
Tal. Maval, Dist. Pune 410 507, Ph: 020 48522561, 565,566  
Web Site: [www.dypcoei.edu.in](http://www.dypcoei.edu.in), Email: [principal.dypcoei@dypatilef.com](mailto:principal.dypcoei@dypatilef.com)

**Dr. D. Y. Patil**  
Founder, Dr. D. Y. Patil Group

**Dr. Sushant Patil**  
President, DYPEF

**Dr. Suresh Mali**  
Principal, DYPCOEI

### **Innovations by the Faculty in Teaching and Learning**

**Category of Innovation method:** Technology Enhanced Blended Learning

**Title of Innovation method:** NPTL/Mooc Based Learning

**Faculty / Inventor:** Mr. Sharad Jadhav

**Course Name and Code:** Deep Learning (410251)

**Class and Division:** Deep Learning DIV(B&C)

**Goals / objective of the method:** To demonstrate various tools and techniques available in the field of deep Learning.

**Topic covered:** Apply the recent tools and techniques to implement deep learning algorithms

**Description of method (8 – 10 lines):**

Reading information as a way of learning does have its uses. But reading information and then taking a SWAYAM /NPTL is much more effective. Forcing brain to retrieve data ensures that it becomes 'embedded' for use in the future. So, Mooc video help to Give information. development of important learning skills, and provide teachers and students with feedback that promotes learning.

**Benefits of the method:**

A NPTL/MOOC is a quick and informal assessment of student knowledge. Video are often used to briefly test a students' level of comprehension regarding course material, providing teachers with insights into student progress and any existing knowledge gaps.

**For review and critique contact:** [sharad.jadhav@dypcoei.com](mailto:sharad.jadhav@dypcoei.com)



Scan for Proof



**Dr. D. Y. Patil**  
Founder, Dr. D. Y. Patil Group

**Dr. Sushant Patil**  
President, DYPEF

**Dr. Suresh Mali**  
Principal, DYPCOEI

## Innovations by the Faculty in Teaching and Learning

**Category of Innovation method:** Project Based Learning

**Title of Innovation method:** Mini project

**Faculty / Inventor:** Mr. Dnyanesh S. Gaikwad

**Course Name and Code:** PBL II (Project Based Learning II) (210258)

**Class and Division:** SE (A, B, C)

**Goals / objective of the method:** To develop critical thinking and problem-solving ability by exploring and proposing solutions to realistic/ social problems.

**Topic covered:** To develop Mini project based on challenges and problems.

**Description of method (8 – 10 lines):**

Project Based Learning is an instructional approach designed to give students the opportunity to develop knowledge and skills through engaging projects set around challenges and problems they may face in the real world. PBL, is more than just projects. With PBL students "investigate and respond to an authentic, engaging, and complex problem, or challenge" with deep and sustained attention. PBL is "learning by doing." The truth is, many in education are recognizing we live in a modern world sustained and advanced through the successful completion of projects. Project based learning will also redefine the role of teacher as mentor in learning process. Along with communicating knowledge to students, often in a lecture setting, the teacher will also to act as an initiator and facilitator in the collaborative process of knowledge transfer and development. The PBL model focuses the student on a big open-ended question, challenge, or problem to research and respond to and/or solve.

**Benefits of the method:**

- 1. Problem Solving:** Students learn how to solve problems that are important to them, including real community issues, more effectively—even learning from failure and possibly starting over.
- 2. Critical Thinking:** Students learn to look at problems with a critical thinking lens, asking questions and coming up with possible solutions for their project.
- 3. Perseverance:** When working on a project, students learn to manage obstacles more effectively, often learning from failure and making adjustments until they're satisfied with their work.

**For review and critique contact:**

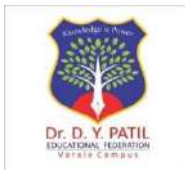
[dnyanesh.gaikwad@dypatilef.com](mailto:dnyanesh.gaikwad@dypatilef.com)

**Action taken based on review and critique:**

While implementing Mini project of PBL II, most of the students faced problems such as how to develop website, how to design android app. Based on oral feedback received from students we provided youtube channel links of industrial persons.



Scan for Proof



**Dr. D. Y. Patil**  
Founder, Dr. D. Y. Patil Group

**Dr. Sushant Patil**  
President, DYPEF

**Dr. Suresh Mali**  
Principal, DYPCOEI

### **Innovations by the Faculty in Teaching and Learning**

**Category of Innovation method:** Technology Enhanced Blended Learning

**Title of Innovation method:** Google Classroom for Design & Analysis of Algorithm,

**Faculty / Inventor:** Mr. Dnyanesh S. Gaikwad

**Course Name and Code:** DAA (Design and Analysis of Algorithm) (410241)

**Class and Division:** BE (A, B)

**Goals / objective of the method:** To streamline the process of sharing files between teachers and students.

**Topic covered:** sharing of Lecture notes, PPT Handouts, Question Papers, Youtube Video links.

**Description of method (8 – 10 lines):**

Google Classroom is a free web-based learning platform developed by Google, where teachers can run a class online, create curriculums, and share assignments with students in a paperless way. The platform simplifies teacher-student collaboration by leveraging the various G Suite services like Google Docs, Sheets, and Slides. The purpose of Google Classroom is to simplify the process of sharing files between teachers and students, and to streamline the creation, distribution, and grading of assignments.

**Benefits of the method:**

- 1. Effective communication:** Teachers can interact with students and share educational materials easily.
- 2. Speeds up the assignment process:** Teachers can post assignments, and students can complete.
- 3. Effective feedback:** Teachers can provide meaningful feedback to students.
- 4. No need for paper:** Students can complete assignments without the need for paper.
- 5. User-friendly interface:** Google Classroom has a clean and user-friendly interface.
- 6. Great commenting system:** Google Classroom has a great commenting system.

**For review and critique contact:** [dnyanesh.gaikwad@dypatilef.com](mailto:dnyanesh.gaikwad@dypatilef.com)

**Action taken based on review and critique:**

Based on Comments received on whatsapp and email, action has been taken such as uploading of question bank, PPT.



Scan for Proof



**Dr. D. Y. Patil**  
Founder, Dr. D. Y. Patil Group

**Dr. Sushant Patil**  
President, DYPEF

**Dr. Suresh Mali**  
Principal, DYPCOEI

### **Innovations by the Faculty in Teaching and Learning**

**Category of Innovation method:** Technology Enhanced Blended Learning

**Title of Innovation method:** Google Classroom

**Faculty / Inventor:** Ms. Anamika Wasnik

**Course Name and Code:** (Data Structures and Algorithms) (210252)

**Class and Division:** SE (B&C)

**Goals / objective of the method:** To understand the use of Google classroom

**Topic covered:** All Unit Notes Syllabus.

**Description of method (8 – 10 lines):**

Google Classroom is a designed to simplify teaching and learning processes. In this particular platform faculty can share course materials, assignments, and can-do communications. The motive is Teachers can assign work, set deadlines, and distribute resources effortlessly. Google Classroom seamlessly integrates with Google Docs, Sheets, and Slides, making it a versatile platform for both in-person and remote learning environments.

**Benefits of the method:**

1. For student's materials can be accessed anytime, anywhere, from any device.
2. Assignments are well-organized and include clearly defined deadlines.
3. Teachers can share additional resources, such as videos, links, and documents, to supplement the learning material and provide diverse learning opportunities.

**For review and critique contact:** [anamika.wasnik@dypatilef.com](mailto:anamika.wasnik@dypatilef.com)

**Action taken based on review and critique:**

Analysis of Feedback taken on the innovative teaching methods

We have created a Google Form to gather valuable feedback from students about their experience with Google Classroom. This form is designed to assess the platform's effectiveness in supporting their learning needs and identify areas for improvement. It includes questions about usability, favorite features, and suggestions for enhancements, ensuring that students can share their honest opinions.

**Link for critique :** <https://forms.gle/uC22xu2AUiomDzMm7>



Scan for Proof



**Dr. D. Y. Patil**  
Founder, Dr. D. Y. Patil Group

**Dr. Sushant Patil**  
President, DYPEF

**Dr. Suresh Mali**  
Principal, DYPCOEI

### **Innovations by the Faculty in Teaching and Learning**

**Category of Innovation method:** Activity Based Learning

**Title of Innovation method:** YouTube Channel

**Faculty / Inventor:** Ms Nikita Oswal

**Course Name and Code:** Fundamentals of Data Structure (410242)

**Class and Division:** SE

**Goals / objective of the method:** To understand the basic concepts of Stack Data Structure

**Topic covered:** Basic concepts of Stack. Its operations, uses and advantages.

**Description of method (8 – 10 lines):**

Videos offer versatile and dynamic methods of teaching, making learning more interactive, engaging, and effective. They support various learning styles, enhance memory retention, provide real-world context, and enable more personalized learning experiences. By integrating videos into the curriculum, educators can create richer, more diverse, and accessible learning environments, fostering deeper understanding and student engagement.

**Benefits of the method:**

Its offers numerous benefits that can enhance the learning experience for students. From fostering engagement and supporting diverse learning styles to promoting active participation and providing flexibility in learning, videos are a powerful tool in modern education. By incorporating video content into lessons, educators can provide richer, more interactive, and accessible learning experiences that resonate with students and prepare them for the digital world.

**For review and critique contact:** [nik.jain235@gmail.com](mailto:nik.jain235@gmail.com)

**Action taken based on review and critique:**

Background noise was minimized.

Clarity in voice improved.

More slides added for detailed explanations.



Scan for Proof



**Dr. D. Y. Patil**  
Founder, Dr. D. Y. Patil Group

**Dr. Sushant Patil**  
President, DYPEF

**Dr. Suresh Mali**  
Principal, DYPCOEI

### **Innovations by the Faculty in Teaching and Learning**

**Category of Innovation method:** Activity Based Learning

**Title of Innovation method:** Problem Solving simplification by Quiz

**Faculty / Inventor:** Mrs. Shubhangi Kshirsagar

**Course Name and Code:** Theory of Computation (310242)

**Class and Division:** TE (A/B)

**Goals / objective of the method:** To understand how to simulate machine

**Topic covered:** Turning Machine

**Description of method (8 – 10 lines):**

A quiz is a type of assessment or test used to measure knowledge, skills, or abilities on a particular subject or topic. It is typically a brief and informal evaluation consisting of a series of questions that can vary in format, such as multiple choice, true or false, short answer, or matching questions. Quizzes are commonly used in educational settings to gauge students' understanding, reinforce learning, and provide feedback

**Benefits of the method:**

Quizzes provide immediate feedback, helping learners understand what they know and what they need to review. This quick correction prevents misconceptions from becoming entrenched.

**For review and critique contact:** [shubhangi.kshirsagar@dypatilef.com](mailto:shubhangi.kshirsagar@dypatilef.com)

<https://forms.gle/Txec9rxredSGDTjs9>

**Action taken based on review and critique:**

**Review:**

Quizzes engage students actively in the learning process. Rather than passively receiving information, learners must retrieve and apply what they've learned, which can lead to better retention.

**Critique:**

Quizzes, particularly those with multiple-choice or true/false questions, often encourage rote memorization rather than deeper learning. Students may prioritize memorizing facts for short-term recall, which limits long-term retention and understanding.

Enhancing areas that received positive feedback or have been identified as strong points.



Scan for Proof





**Dr. D. Y. Patil**  
Founder, Dr. D. Y. Patil Group

**Dr. Sushant Patil**  
President, DYPEF

**Dr. Suresh Mali**  
Principal, DYP COEI

## Innovations by the Faculty in Teaching and Learning

**Category of Innovation method:** Technology Enhanced Blended Learning

**Title of Innovation method:** Google Classroom

**Faculty / Inventor:** Mrs. Chaitali S. Sartape

**Course Name and Code:** Database management system laboratory (310256)

**Class and Division:** TE (B)

**Goals / objective of the method:** To understand the basic concepts of Data Structural Algorithm.

**Topic covered:** Experiment of Database management system laboratory.

**Description of method (8 – 10 lines):**

For Database Management System (DBMS) labs, Google Classroom can be utilized to manage experiment workflows, distribute resources, and facilitate collaboration and feedback. Google Classroom is a versatile platform that enables educators to organize and conduct laboratory experiments efficiently in a virtual environment. Create assignments for each experiment with a clear description, objectives, and expected deliverables. Examples include: writing SQL queries for CRUD operations., designing an ER diagram and implementing it as tables in a database.

**Benefits of the method:**

- Using Google Classroom Students can access the resources and complete their experiments at their own pace, from anywhere, using any device.
- Assignments, resources, and submissions are centralized in one platform, reducing confusion and improving accessibility.
- Teachers can monitor student progress, track submissions, and identify areas where additional support is needed.

**For review and critique contact:**

Google form: <https://forms.gle/SNsrngvVdJ4kednm7>

email :[chaitali.sartape@dypcoei.com](mailto:chaitali.sartape@dypcoei.com)

- It lacks a built-in environment for executing SQL queries or database management. Students must rely on external tools, which might lead to technical difficulties.
- Instructors cannot monitor real-time execution of SQL queries or database activities. This makes it challenging to identify mistakes as students work on their experiments.

**Action taken based on review and critique:**

- Schedule regular live coding sessions using Google Meet, where demonstrate query execution and troubleshooting.
- Use platforms like Google Cloud SQL, AWS RDS, or Azure SQL Database for real-time database hosting and hands-on experience.



Scan for Proof





**Dr. D. Y. Patil**  
Founder, Dr. D. Y. Patil Group

**Dr. Sushant Patil**  
President, DYPEF

**Dr. Suresh Mali**  
Principal, DYP COEI

## Innovations by the Faculty in Teaching and Learning

**Category of Innovation method:** Technology Enhanced Blended Learning

**Title of Innovation method:** Virtual Lab.

**Faculty / Inventor:** Mrs. Chaitali S. Sartape

**Course Name and Code:** Data Structures and Algorithms Laboratory (210256)

**Class and Division:** SE (A)

**Goals / objective of the method:** To understand the basic concepts of DSA.

**Topic covered:** Basic concepts of Data Structural Algorithm.

**Description of method (8 – 10 lines):**

Virtual labs for learning Data Structures and Algorithms focus on combining interactive tools, real-world problem-solving, and practical exercises. It helps to Visualizing how a binary search tree grows and behaves during insertion, deletion, and traversal. Solve exercises requiring stack operations, such as evaluating a postfix expression. Overall virtual labs provide a comprehensive, interactive, and flexible method for mastering data structures and algorithms.

**Benefits of the method:**

- Virtual labs often include visual tools that animate how algorithms work step-by-step, helping learners understand abstract concepts more intuitively.
- Complex topics like tree traversals, graph algorithms, and dynamic programming can be challenging to grasp through theoretical learning alone.

**For review and critique contact:**

Google form: <https://forms.gle/Hhwx9yrzodDBs2Q79> email : [chaitali.sartape@dypcoei.com](mailto:chaitali.sartape@dypcoei.com)

- The user interface is intuitive, with clearly labelled sections for different data structures and algorithms.
- The platform excels at providing clear and engaging visualizations for fundamental data structures like arrays, stacks, queues, trees, and graphs.
- Algorithms such as Dijkstra's shortest path and merge sort are animated step-by-step, which significantly helps in understanding abstract concepts.
- There is no built-in feature to assess a learner's progress or provide feedback on their understanding.

**Action taken based on review and critique:**

- Integrate Coding Practice as add an interactive coding environment where learners can implement the algorithms they visualize.
- Provide detailed tutorials alongside animations to explain complex theoretical concepts in depth.
- Introduce quizzes, problem-solving challenges, projects at the end of topic to reinforce learning and assess understanding progress.



Scan for Proof