



Sant Dynaneshwar Shikshan Sanstha's  
**Annasaheb Dange College of Engineering and Technology, Ashta**  
**Department of Electrical Engineering**

A brief report on Innovation by the Faculty in Teaching and Learning

1. Name of the Innovation Activity:	Think Share Pair
2. Course Code and Course Name:	1EEPC403 Switchgear and Protection
3. Program and Class:	Electrical Engineering, B. Tech A Division
4. Name of the Unit/ Topic:	Unit III/ Problems on Electromagnetic Relays
5. Course Outcome:	CO5
6. Name of the Faculty Member:	Dr. M. Palpandian
7. Time Allocation:	30 Minutes
8. Introduction	<p>Think-pair-share is a technique that encourages and allows for individual thinking, collaboration, and presentation in the same activity. Students must first answer a prompt on their own, then come together in pairs or small groups, then share their discussion and decision with the class. Discussing an answer first with a partner before sharing maximizes participation, and helps to focus attention on the prompt given.</p>
9. Motivational/ Purpose of the innovation technique:	<p>Using the think-pair-share technique allows students time for individual reflection, thinking, and processing new information before they may be influenced by other students' answers. This process also teaches students how to explain their thoughts first to a peer, and then to the entire class.</p>
10. Evaluation/ Assessment process:	<p>After teaching the topic air circuit breaker, time duration of five or ten minutes is given for the students to think about the topic. A set of problems on electromagnetic relay are given to the students to solve in a time duration of 15 min. Afterwards, the students get into pairs of 4 students by their own. Each student discuss the problems solved by their own and discuss with their pair for solving problems completely or to clear the doubts.</p>
11. Outcomes of the technique:	<p>The assessment of effectiveness of the activity was felt good and most of the students solved the problems. The students were able to understand the concept clearly. A few students were not able to complete within the allotted time duration.</p>
12. Reference:	<p>Sunil S.Rao, 'Switchgear and Protection', Khanna Publishers, New Delhi, 2008. Badri Ram, B.H. Vishwakarma, 'Power System Protection and Switchgear', New Age International Pvt. Ltd Publishers, Second Edition 2011.</p>



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1. Name of the Innovation Activity:	Ungraded Quiz
2. Course Code and Course Name:	1EEPC403 Switchgear and Protection
3. Program and Class:	Electrical Engineering, B. Tech A Division
4. Name of the Unit/ Topic:	Unit VI/ Numerical Protection
5. Course Outcome:	CO2
6. Name of the Faculty Member:	Dr. M. Palpandian
7. Time Allocation:	20 Minutes
8. Introduction	<p>The topic plays vital role in power system protection. Since, most of the industries adopted numerical protection for the apparatus protection. After teaching the concept, I thought of conducting this activity for making the students to understand the numerical protection of power apparatus which enhance the learning level and able to judge the understanding level of the students</p>
9. Motivational/ Purpose of the innovation technique:	<p>Using the think-pair-share technique allows students time for individual reflection, thinking, and processing new information before they may be influenced by other students' answers. This process also teaches students how to explain their thoughts first to a peer, and then to the entire class.</p>
10. Evaluation/ Assessment process:	<p>After teaching the numerical relay, time duration of 10 min is given for the students to think about the topics covered. Then, the students were asked to answer the ungraded quiz of 20 questions and finally the responses were collected from the students.</p>
11. Outcomes of the technique:	<p>The assessment of effectiveness of the activity was felt good and the correct answer given by most of the students. While conducting the activity, I understood that the students will be able to recollect the points about numerical protection.</p>
12. Reference:	<p>Sunil S.Rao, 'Switchgear and Protection', Khanna Publishers, New Delhi, 2008. Badri Ram, B.H. Vishwakarma, 'Power System Protection and Switchgear', New Age International Pvt. Ltd Publishers, Second Edition 2011.</p>