"Collaborative learning approach to solve Industrial problems by using CFD software"

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❖ It is the combinations of new active learning tools like video based learning or virtual lab with interfacing applications like Collaborative approach for interactive learning.

❖ It is essential to be interaction between students and faculty followed by feedback for the complete loop of teaching learning process.

Set Up and Methodology

❖ Basically for solving any kind of problems in CFD ,it has to follow the major three steps

❖ Pre processing

❖ Solver

❖ Post processing

❖ To make the use of CFD software to solve any kind of research or industrial problems students need to have basic knowledge of subject Heat transfer and fluid mechanics

❖We are having batch of 18 students who are opted the CFD software to solve any kind of problem related to their project work.

❖We divide the total students in 6 subsequent groups so that each group will contain 3 students.

❖By Identifying different domains to solve Industrial problems by using CFD tool assign one domain to each group

❖On the basis of domain assigned to them by their interest, they can find the three research papers available in the same

❖From the group of three students each one will do the Pre-processing, solving ,post-processing for different problems.

❖For the result and discussion, all three students can discuss in between and make the reports according to their observations .

❖They can verify their results with the result of research paper they have selected.

Table 2. Feedback of the students

Sr. no.	Particular	Poor	Fair	Good	Excellent
1	At what extent you understand practical procedure?	1	5	6	6
2	Is it made you more interactive?	0	8	5	5
3	Whether it helped you to increase understanding level with Industrial problem solving techniques?	2	4	4	8
4	Have you enjoyed?	0	5	8	5
5	Would you recommend similar activity for other software lab?	4	4	4	6

Conclusion

❖ It is observes that students can face different problems while solving industrial problems but due to collaborative knowledge of students in respective domain it is easier to solve it .

❖ also considering the feedback by the students, it shows that this strategy of practical course learning is successfully implemented and the students were enjoyed lot.

❖ In future we plan to apply combinations of different strategies followed by feedback for more understanding of the practical courses.

Thank You