

Faculty Learning Community

04-05

STUDENT'S ACTIVE LEARNING
AND PARTICIPATION
IN CLASS

By

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Problem Description

- ◆ Dynamics is a fundamental and tough course for Mechanical Engineering students
- ◆ My Dynamics section is scheduled from 6 to 8:20 PM, a tough schedule for me and my students.
- ◆ It is very difficult to keep the student's attention for 2.5 hours at night. Many of them fall asleep if using regular lecture technique

Goal

- ◆ To use the techniques learned during in my FLC in order to keep them interested and motivated during the class
 - Active learning
 - Humor
 - Coaching
 - Problem Solving with extra credit

IMPLEMENTATION

- ◆ Before class I prepared a series of activities for the day and a list of teams(see example)
- ◆ At the beginning of class I presented the plan of work for the day and collected homework
- ◆ I lectured for the first 50 minutes using funny slides to maintain their attention (see example), after this we used to take a 10 minute break.
- ◆ After the break, I formed teams of 3 or 4 students and gave them 4 or 5 problems to work on for the next 45 minutes

IMPLEMENTATION

- ◆ During this time, students worked collaboratively with their team members in the solution of the problems. I was available to check on progress and answer questions
- ◆ After this time I used to pick up a team at random and ask them to solve a problem and explain it in front of the class. If they get it all right they received an extra credit for the next test

IMPLEMENTATION

- ◆ Breaking up a test into a series of very specific activities that will lead them to the solution of the problem help them to develop a method of analysis (see example)

Key Lessons

◆ I noticed that our students work better in an environment which allow them to express themselves in a constructive manner. Most of them like to work on teams, they like to help each other, they like learning environments in which they feel free to make comments and engage in class.

- ◆ The section of problem solving allowed me to work closer with students that needed more help
- ◆ The extra credit added extra motivation for all the team members to solve the problems and understand them
- ◆ The class was very dynamic that time just flew
- ◆ Breaking up the tests allowed me to pick up mistakes much easier and assign partial credit

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- ◆ Although most people liked it, not all the students feel comfortable with this techniques.
 - ◆ This has been my first experience with these techniques and look forward to continue with their implementation and improvement

Recommendations

- ◆ Support our Learning Communities and the Scholarship of Teaching