Innovative Teaching Methodologies

Department of Computer Science

Flipped classroom teaching methodology is frequently being used to teach Computers in our School. We essentially reverse the traditional way of teaching i.e. what is usually done in the classroom, such as lectures are given as a task to the students and the discussion on the task is subsequently held in detail in the class.

Computer Science and Informatics Practices Students of Class XI were divided into groups and each group was given a tricky programming question with only a few clues. Expectations from each group was clearly stated.

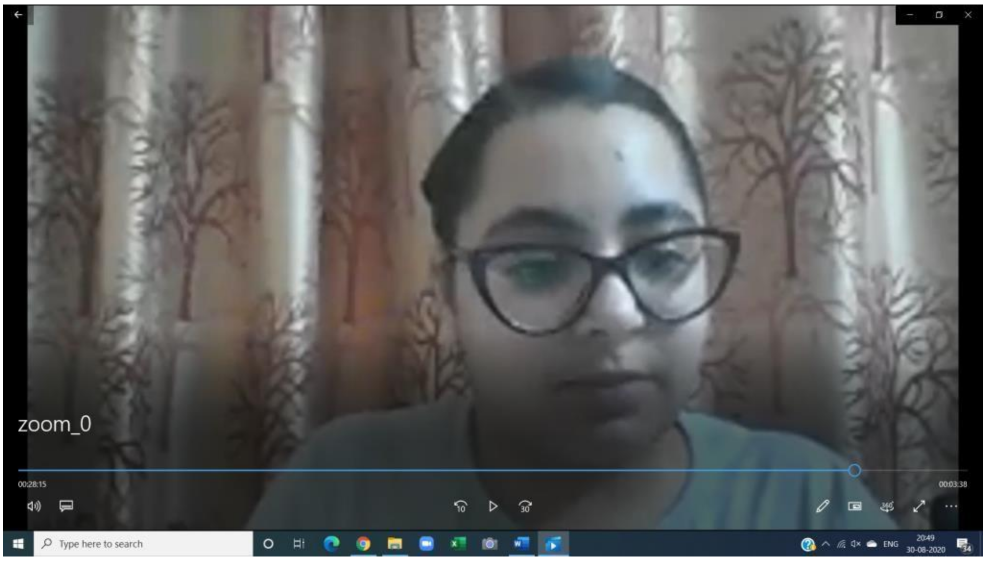
Each group of students was asked to discuss amongst themselves in a group and come out with a program. Each group was given a time slot to present their program.

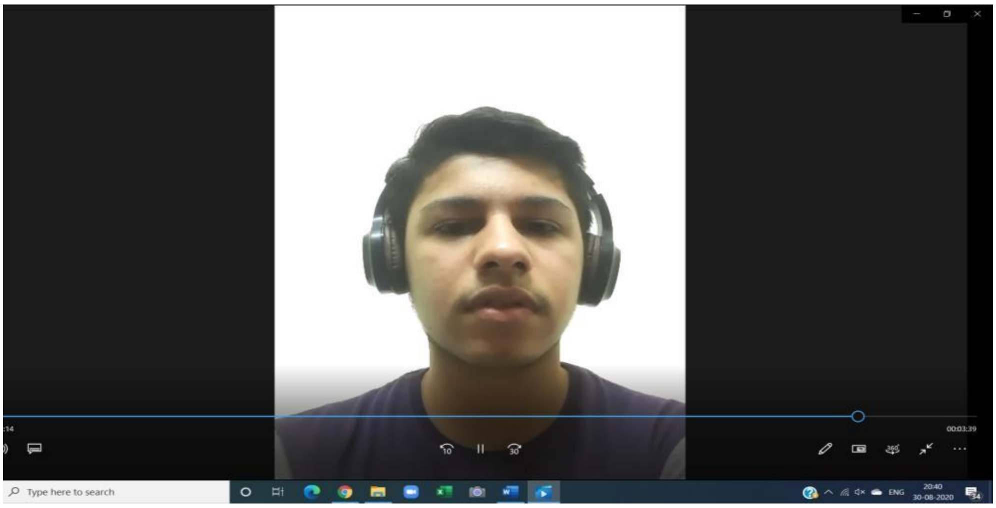
The following rules were given to the students:

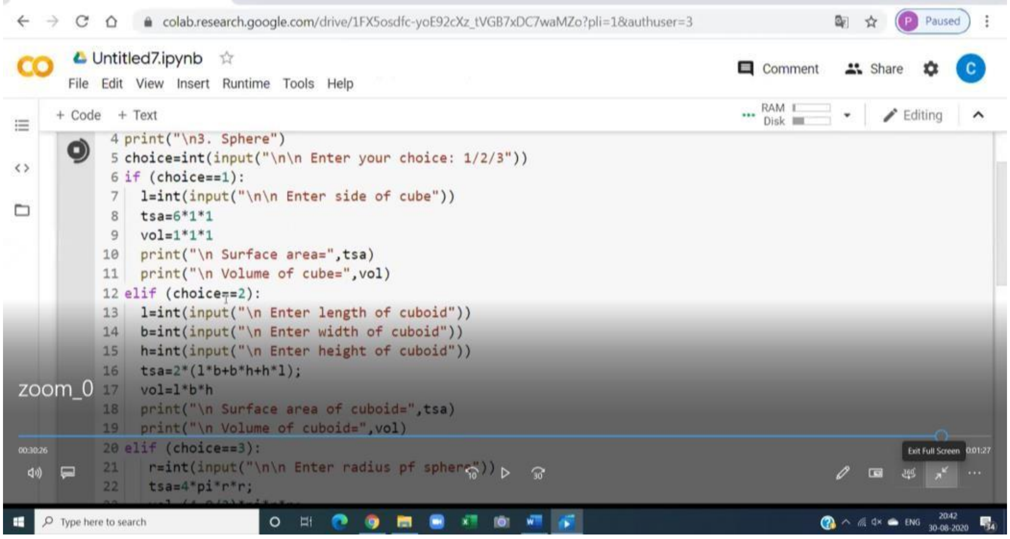
- First each member of Group (that is Presenting) will introduce themselves.
- Presenter will Share his/her Screen and start by speaking the question that they have taken. Presenter will explain the program.
- After explaining the program, students from other groups may raise hands on line and ask when I signal them to ask. Student who asks has to tell their Group NO, Name and then ask Question.
- Other Group members should ask intelligent questions from Presenter’s group as this will enhance their marks.
- Anyone from the Presenting group can answer the question.
- Question should be relevant to that particular program only.

After the presentation of programs and questions put up by groups, the teacher clarified points that the students did not understand . Also, the teacher provided additional help to students who needed one-on-one assistance.

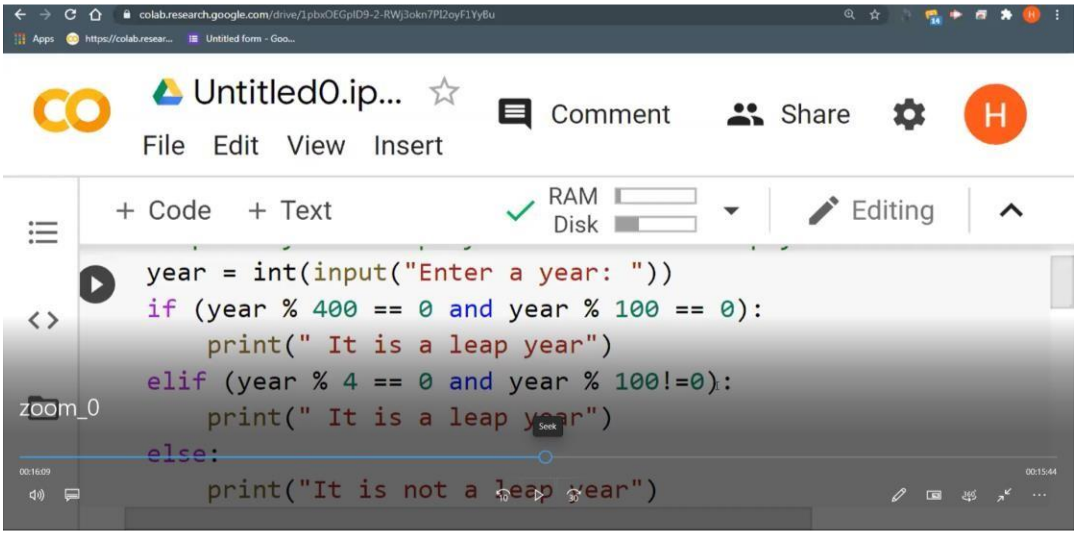
In Computer Science, for many topics, this flipped methodology is very successful as when the students get to the lesson, they spend their time seeking answers from online platforms and other resources. They collaborate with peers and develop higher-level cognitive skills.







```
print("\n3. Sphere")
choice=int(input("\n\n Enter your choice: 1/2/3"))
if (choice==1):
  l=int(input("\n\n Enter side of cube"))
  tsa=6*1*1
  vol=1*1*1
  print("\n Surface area=",tsa)
  print("\n Volume of cube=",vol)
elif (choice==2):
  l=int(input("\n Enter length of cuboid"))
  b=int(input("\n Enter width of cuboid"))
  h=int(input("\n Enter height of cuboid"))
  tsa=2*(l*b+b*h+h*l);
  vol=l*b*h
  print("\n Surface area of cuboid=",tsa)
  print("\n Volume of cuboid=",vol)
elif (choice==3):
   r=int(input("\n\n Enter radius pf sphere"))
   tsa=4*pi*r*r;
```



```
year = int(input("Enter a year: "))
if (year % 400 == 0 and year % 100 == 0):
    print(" It is a leap year")
elif (year % 4 == 0 and year % 100!=0):
    print(" It is a leap year")
else:
    print("It is not a leap year")
```