SREYAS Institute of Engineering & Technology

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

Innovations by the Faculty in Teaching and Learning

Sreyas Institute of Engineering & Technology is uniquely qualified to take advantage of our expertise in teaching and learning processes. Over the 2 years, we have spread headed a revolution in learning experience of students at Sreyas and beyond. Hundreds of hours of training for hundreds of faculties from Sreyas and many other institutions have seen the incredible benefits of scientific and modern educational practices of active and experiential learning, formative assessments, project-based learning, Sreyas Institute of Engineering & Technology has always focused on student-centric teaching and learning.

In this process, the ICT enabled infrastructure plays a vital role. Availability of quality audio-video systems and multimedia projectors in classrooms facilitates the faculty member use of PowerPoint, excel spreadsheets, videos, and online databases in classrooms help the students to master a basic and advanced understanding of subjects with greater clarity in the application of the concepts.

Students also play a critical role here. For example, in many courses, students are allotted exercises/assignments in terms of presentation of case studies, topics etc. Such activities not only enhance the learning outcomes but also develop self-confidence among students. Similarly, in many courses, the quizzes are conducted online. All such activities put students at the centre of the teaching and learning process.

Each course has their course-pack available on course-Google drive/ course-website which contains all information related to courses, like assignment list, practical list, syllabus, lesson plan and question bank etc, which is approved by the Academic Group Leader (AGL) in their respective domain.

Following are the innovative practices used by our faculty in Teaching and Learning Process:

Sl.No	Innovation Method	Introduced on	Year	Description	Photo
1	Flipped Class Room	2016-17 IIsem	III	Student can learn new technology by giving seminars	
2	Background Knowledge Probe	2016-17 II sem	III	Before commencement of classwork, faculty has given some prerequisite knowledge to the students.	
3	Think Pair Share Activity	2017-18 IIsem	III	A group of student can make as group and think-pair-share the given problem in the classwork.	
4	Problem Based Learning	2016-17 II sem	II	Learning the new concept by derive/solve the given problem	
5	Clarification Pauses	2017-18 II sem	III	Students can clarify their doubts	
6	Jigsaw Group	2018-19 II sem	III	A jigsaw group of student can able to discuss and develop a project/product.	

1. Flipped Class Room:

The objective of flipped class room technique is to motivate students to learn concepts on their own, obtain timely information (via preliminary assessments) about their learning before class and thereby adapt learning style. Students come to the class with prior knowledge of the concepts and these concepts are reinforced in the class by solving some logical and critical thinking problems based on the topic and ensures long lasting retention of the concepts.

2. Background knowledge Probe:

Begin the discussion with the students by demonstrating concept what we discussed in previous chapter and test the student background knowledge by conducting the activity.

3. Think Pair Share Activity:

Think phase: Individual students think on question

Pair phase: Students sitting in a single bench form a group and will review their solutions in think phase and will come out with one best.

Share phase: I will share my solutions; Teams will verify with their solution and will identify new points. This will be shared with entire class room.

4. Problem based learning:

Assign a challenging problem to the students to solve in the group of five.

5. Clarification Pauses:

“Throughout a lecture, particularly after stating an important point or defining a key concept, stop, let it sink in, and then (after waiting a bit!) Ask if anyone needs to have it clarified. You can also move around the room during these pauses to look at student notes, answer questions, etc. Students who would never ask a question in front of the whole class will ask questions during a clarification pause as you move around the room.

6. Jigsaw Group:

Divide the students into group of three or four and assign some discrete part of an assignment to each member of a group to complete; when every member has completed his assigned task, then the group reforms to complete a comprehensive report.

Academic Year 2018-19

Name of the faculty	Course	Class	Topic	Innovations in teaching & Learning	Impact
Mr.V.Biksham	OS	II-II	Background knowledge about OS	Background Knowledge	Student will able to learn about basic fundamentals of OS
Dr.Nagaraju	CD	III-II	Phases in Complier	Jigsaw Group	Learn about the overall phases of compiler design
Mr.Salar Md.	LP	IV-I	Linux Programming	Flipped Class Room	Learn about Linux Utilities and Shell Programming
Mrs.P.Archana/ Mr.V.Biksham	CRNS	III-I	Public key cryptosystem	Clarification Pauses	Getting knowledge about RSA, Diffie Hellman Security algorithm

Academic Year 2017-18

Name of the faculty	Course	Class	Topic	Innovations in teaching & Learning	Impact
Mrs. K Ramya Laxmi	DW	IV-I	Pentago tool Database connection in kettle	Demo on transformations –Problem based learning	Students can understand a new tool and can work on integration.
Mr. K Rohit kumar	STM	III-II	Types of Testing and its techniques	Real time experience on website with different testing tools, methods and its type - Think Pair Share Activity	Students are able to write a test case, scenarios on a requirement to get quality
Dr. M Venkata reddy	OOAD	III-II	Cases, use cases, and sequence diagrams, modeling techniques and forward engineering	Explanation with white board and PPT - Clarification Pauses	Getting knowledge on how to write the code by using the UML diagrams with forward engineering techniques and awareness about drawing UML diagrams for real time applications
Mr.Lubna Yasmeen	CN	III-I	Network topologies and	Think Pair Share activity	Students able to learn about networking

			connections		topologies and various protocols
Mr.K.Rohit Kumar	SE	II-II	Software Engineering	Flipped Class Room	Learn about various Process models in SDLC
Mr.G.Sravan Kumar	FLAT	II-II	Turing Machines	Background Knowledge Probe	Students acquires the knowledge about Turing machines concept

Academic Year 2016-17

Name of the faculty	Course	Class	Topic	Innovations in teaching & Learning	Impact
Mrs. M Deepika	WT	III-II	Database connectivity with server side program	PPT with practical session - Flipped Class Room	Student can develop a website based on this session using WAMP server
Mr. P Naresh	PPL	III-I	Python programming	PPT- Background knowledge Probe:	Students will acquired knowledge on python
Mr.B .Vivekanand	OOPS	II-II	JDBC CONNECTIVITY	Practical Session – Problem based learning	Students will understand how to communicate with different databases.