

2.3.1 Student centric methods, such as experiential learning, participative learning and problem solving methodologies are used for enhancing learning experiences using ICT tools.

Response:

Effectiveness of Teaching-Learning process is increased by Student centric methods with the help of ICT tools.

Experiential Learning: is used to enhance students' learning levels, Guidance and focus toward the given activity and objectives. Students learn skills, behavioral approach from activities like study visits to industries, nurseries, public health centre, gram panchayat etc. Use of e-mail and websites, **online designing various circuits, simulations by using Online platform as ICT tools.** Students are given free hands to organize events like debate competition, quiz contest etc. under the guidance of Faculty. These activities helped students in learning organizing skills, team behavior, positive approach toward facing challenges. **Quiz competition are organized on google platform where students got experiential learning by using ICT tool.**

Participative learning's: College usually uses Group discussion, Group task, Students' seminar in group, PPT presentation etc in participative learning methods. In the activity of group discussion, it was explained to students, how it is used as one of the selection tool. Faculty gave guidance about mannerism to follow, decorum to be maintained and other useful tips to increase the effectiveness.

In the group task method a group of students were given task to be completed in given time. In this activity students learn to understand skills of group member, decide their leader, time management, team behavior, crisis solving to maintain group harmony etc.

In the students' seminar a group of 5/7 students is given a topic, a week in advance, for 30 minutes seminar where every member of group have to speak, explain minimum for 3 minutes and presentation of topic by using ICT tools. This activity took students to library, **on line searches, e-learning** preparing notes and building confidence to speak in front of all by giving PPT presentation. Students joined On line seminars on Google Meet.

Problem Solving Methods: A group of students is given small problems in the form of assignments, research projects, field survey, case studies, enquiry-based learning. **Determining grain size of materials by Image J software, Finding different XRD pattern by using ICDD data, To determine crystal structure of a material from XRD pattern using x-pert high-score software, To understand the working of android controlled home appliances using blue-tooth model,** Study of Digital marketing and platforms for earning.

Use of ICT tools: Blending of the use ICT tools in student centric methods has enhanced the learning level and understanding of students.

On line searching for gathering information, e-learning, on line surveys, participation on Google and Zoom meet, Power Point presentation, preparing Excel sheets, MS Office, use of Whatsapp, facebook and other social platforms as a part of Participative learning through ICT tools.

Use of ICT tools in designing, poster making, Puzzle solving, online data collection, analyzing company reports, Digital marketing, e-commerce, comparing real time output of various practical experiments with on line standard are done by using ICT tools.

Teachers and students update their knowledge through SWAYAM courses, IIT courses and NPTEL videos. Blended learning and flipped classroom, Google Classroom are used as ICT tools.

ICT- enabled tools including online resources



Students using Computer lab