

Creative And Innovative Teaching Methods For Arts & Science College Students - A Study

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21ST CENTURY TEACHING & LEARNING

In the 21st century digital era, there is a paradigm shift in education. Teacher's role has shifted from knowledge provider to mentor or facilitator. Teachers should involve themselves in Continuous Professional Development (CPD) training to become / remain efficient and effective. They should adopt a student-centric approach and encourage experiential learning, participative learning, collaborative learning, and technology-based teaching and learning inside and outside the classroom.

Experimenting with creative or innovative teaching methods, monitoring teaching-learning process inside the classroom, conducting in-house research, modifying teaching methods based on the observations, and publishing the action research findings in academic journals can help enhance teaching-learning process at tertiary level. This article discusses the creative and innovative teaching methods that can be used in Arts and Science colleges.

EXPERIENTIAL LEARNING

Students 'experience and learn' during Industrial Visits, Field Trips, Internships / Industrial Training, Industry-oriented mini projects, Educational Tours, Environmental Science Trips, Heritage Tours, etc.

Industrial Visits

Industrial Visit is considered to be an effective teaching-learning method as it allows the students to explore how industries / companies work and provides practical knowledge which cannot be provided through classroom lectures. Interaction with employees helps them

understand the workplace atmosphere and the challenges involved in managing co-workers apart from getting hands-on technical knowledge. Exposure to industries increases internship and placement opportunities for the students.

Field Trips

Field Trips are educational trips to areas outside normal classrooms where students get real world experience. Students can visit planetariums, museums, laboratories, and places of environmental concern (like botanical gardens, reserve forests, agricultural lands, etc.) during field trips. This will help them improve their practical knowledge in different subjects.

Internships

Internships are opportunities offered by employers to potential students who are called 'interns' to work in companies or industries for a few months to gain hands-on job training. Students can undertake field projects or internships every year to gain technical knowledge and work experience. These internships can be part-time if offered during semesters and full-time if offered during vacation.

Industry-Oriented Mini-Projects

Industry-oriented mini-projects strengthen students' understanding of fundamentals through effective application of theoretical concepts in practical projects. Teachers can encourage their students to complete mini-projects to enhance the teaching-learning process.

Educational Tour / Heritage Trip

Educational tours or heritage trips provide students with opportunities to visit different places, understand diverse climatic conditions and cultures, collaborate with each other, integrate new perspectives in community building and personality enrichment, thereby enhancing teaching-learning initiatives in the college.

PARTICIPATIVE LEARNING

Students 'participate and learn' during Brainstorming, Science Demos, Dramatics or Theatrical arts, Role Plays, Nature Observation, Science Exhibitions, Field Surveys, Interviews, and Paper Presentations.

Brainstorming

Brainstorming is a technique used to generate ideas or solutions to a problem. It is an informal approach to problem solving. Teachers can conduct brainstorming sessions in the classroom to develop lateral thinking in the students.

Science Demos

Faculty can demonstrate Science experiments or concepts using working and non-working models. As a part of participative learning, individually or in groups, students can also create models and demonstrate them in the classroom. Working with models helps them visualise scientific ideas and understand complex concepts easily. Science Exhibition can be conducted to develop students' model-making skills and creativity at college level.

Dramatics or Theatrical Arts

Dramatics or theatrical arts is concerned with acting out stories in front of an audience, using a combination of speech, gestures, music, dance, sound, and spectacle. It helps in developing the critical thinking and creativity of students. It builds students' confidence and enhances their public speaking skills. Engaging in dramatics, students can develop their imagination, visualisation, communication, and acting skills. They also learn to coordinate and work with each other as a team.

Role Play

Role Play involves changing of one's behaviour to assume a role, either to imitate a real-life character or act out an imaginary situation. It helps in visualising the concept(s) and understanding the subject(s) better. Students can perform role-play (e.g., literary characters, businessman, bank manager, customer, scientist, etc.) in the classroom, developing their subject knowledge, communication skills, critical thinking, and creativity at the same time.

Nature Observation

Observing nature and learning Science or Mathematical concepts is an interesting teaching-learning strategy. Teachers can encourage the students to interact with nature and

learn fundamental concepts like air pollution, groundwater contamination, rainwater harvesting, natural gas production, etc.

Field Surveys and Interviews

Field surveys and Interviews are helpful in studying a problem under investigation in depth as per pre-defined objectives. As a part of mini-projects, students can conduct Field Surveys and Personal Interviews and record their observations along with findings.

Paper Presentations

Paper Presentations involve an individual or a group of students presenting to the faculty, student group(s), or other invited audience. As a part of assignment or seminar, students can make paper or PPT based oral presentations in the classroom. They can also present papers in national or international seminars or conferences conducted in different colleges.

COLLABORATIVE LEARNING

Peer Learning

As a part of Collaborative Learning, students can involve themselves in Peer Learning during which advanced learners can help slow learners learn in groups inside the classroom.

Case Study

Case Study involves in-depth investigation of an individual, a group, or an event to explore the underlying features, principles, causes, or results. Students can conduct case study or case work as a part of their course work or mini-project.

CREATIVE TEACHING

Students can make colourful Mind Maps, Flash Cards, Pictionary (Picture Dictionary), Digi-Tales (Digital Stories using PPT or Videomaker apps), Animated Tales (using Animation apps), Comic Strips, and Sticky Notes activities to learn different subjects in creative ways.

TECHNOLOGY BASED TEACHING & LEARNING

Edutainment

Students can use mobile phones both for education and entertainment. They can watch subject related animations, simulations, *YouTube* videos, *TedX* lectures, *National Geographic / Discovery Channel* programmes, film adaptations, or science fiction movies to get wide exposure and better understanding of subjects. They can watch animation videos like Rocket Science or fun videos such as Relationship between *Sambhar* and Maths - Fourier Transform to understand complex concepts.

Flipped Classroom

Flipped Classroom is a pedagogical approach in which the conventional notion of classroom-based learning is inverted by providing students with the learning materials before the class hour so that classroom time can be used to apply the concepts and do activities or conduct group discussions on the same subject or topic. Teachers can upload PPTs, videos, and e-links in LMS (Learning Management System), and instruct the students to read or view the lessons before the allotted class hour. They can allow the students to complete exercises, conduct subject related quizzes, or initiate group discussions during the class hour.

Blended Learning

Blended Learning is a hybrid teaching methodology that combines online educational materials with traditional teaching methods. Teachers can involve in Blended Learning by using PPTs or videos to support classroom teaching (chalk and talk method). They can make use of smart boards in smart classrooms to make teaching-learning more interactive and more interesting.

Mobile Apps Based Teaching-Learning

With the advent of smart phones and 4G network connections, students have become addicted to mobile phones. Teachers can use different mobile apps like *Verso App*, *Edmodo*, and *Socrative Learning* to grab the attention of the students and make teaching-learning interesting.

Blogs and Vlogs

Writing blogs, creating vlogs, and starting *YouTube* channels have become a popular phenomenon in the 21st century digital era. Students can be encouraged to write blogs, post pictures, and share vlogs in *YouTube*. They can also share subject-related videos in *YouTube*.

Interactive e-content

Teachers can create their own *YouTube* channels and upload their e-content in video format. Students can view the videos and learn anytime, anywhere. This would be beneficial for the student community around the world.

NPTEL (National Programme on Technology Enhanced Learning)

Funded by MHRD, Indian Institutes of Technology (IITs) have introduced NPTEL (National Programme on Technology Enhanced Learning) web-based courses that come under MOOC (Massive Open Online Courses). Swayam NPTEL courses are beneficial for both the teachers and students, as they can learn any subject of their choice, write exams, and get certificates from IITs. Teachers can also get FDP (Faculty Development Programme) certificates along with Mentor certificates.

Action Research:

Teachers and students can involve themselves in In-House Research to promote research-oriented teaching and learning in the college. They can conduct field surveys, collect feedback, evaluate the effectiveness of using different teaching-learning methods, and publish their qualitative or quantitative findings in academic journals. Action Research based teaching and learning can help the teachers explore new domains in 21st century education and enhance students' learning experience at micro and macro levels.

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