

BEST PRACTICES

Best Practice 1:

Title:

Spoken Tutorial of IIT Mumbai: Learning Free and Open-Source Software (FOSS) online.

Objectives:

- To expose the students to new market driven learning ecosystem and empower them with new software skills besides regular academic curriculum.
- To make students acquainted with the state-of-the-art technologies.
- To prepare students for global competitions.
- To expose students to the best available e-learning platforms.
- To prepare students to acquire additional credits along with regular curriculum as per the need of NEP 2020.

The Context:

Acquiring additional skills or having knowledge of state-of-the-art technology has become an essential part of learning in today's modern world challenges and competition. As per the needs of new education policy (NEP), virtual and online courses should replace some traditional physical courses in the near future and students are expected to learn from Internationally recognized online platforms.

Majority of the students in the institute belong to nearby rural areas which lack internet facilities and resources for acquiring computer related soft skills with reference to their subject. Higher educational institutions are under an obligation and responsibility to provide the necessary soft skill facilities for the overall development of the students.

Anyone with interest in the subject, regardless of age, location, or other considerations, can benefit from these courses and modules because they are not targeted at any specific audience.

The Practice:

Accepting the importance of ICT, the institute has started providing learning facilities in the form of Spoken Tutorial of IIT Mumbai, for the students to acquire software knowledge which are available online. The Spoken Tutorial (ST) project is an initiative of "Talk to a Teacher" project of the National Mission on Education through Information and Communication Technology, launched by Ministry of Education (previously MHRD), Govt of India, where one can find a variety of tutorials on various Free and Open-Source Software (FOSS) in several Indian regional languages. ST is a 10-minute-long audio-video tutorial created using the screencast methodology where the face of the person creating the video is not captured, rather the students are shown the lesson to learn. The spoken part of ST is dubbed into all Indian languages and one can use ST to learn any topic. This distinguishes ST from the rest of the other video tutorials available online. It can be used in offline mode as well and hence is useful to those who do not have access to the Internet.

The institute has incorporated this activity in the college timetable from the academic session 2017 and made it mandatory for the students of second year B. Sc. and M. Sc. The ICT Center

of the college has all the facilities required for online courses. The faculty members of the institute have been entrusted with the responsibility of each batch of maximum 20 students, so that each learner is given attention and their query may be quickly resolved. The faculty member selects the required FOSS from the vast courses available on Spoken Tutorial portal and encourages students of allotted batches to join the course. Faculty enrolls the students on the portal after which begins the journey of online learning for the newly enrolled students. The students have to attend the sessions/modules of Spoken Tutorial classes as per the time-table slot mentioned in the master time-table of the institute. The ICT center helps in overcoming technical difficulties in accessing the course. Attendance of the students is also maintained at the ICT center by the concerned faculty. Slow learners are also encouraged to access the recordings in free time and off lectures. At the end of the semester an online test is conducted in the ICT center by IIT Mumbai and additional certificates are awarded to the successful students, besides their participation certificate. Students enroll for the other course in the next semester and follow the same procedure. Thus, during one academic session students get the exposure to learn two different courses.

Evidence of Success:

After its implementation in academic session 2017-2018, till now 2458 students have benefited through 89 training sessions. The learner, after completing the training, received a participation certificate from IIT Mumbai. The students qualified in the online test received additional completion certificates. All these certificates are available on the spoken tutorial portal. The training has enabled the students to understand the subject practically through simulations. Students have gained skills to implement it. The training related to skill enhancement was helpful for the students to design some modules based on sensors and processing units.

Problems Encountered:

Most of our students live in rural areas and face the problem of frequent power cuts and absence of internet connectivity and data pack. This causes a limitation for them enrol for other courses and spare their time to learn at home.

The learning experience is completely different for students when they switch from traditional classroom training with a face-to-face instructor to computer-based instruction in a virtual classroom. They struggle to adjust to the online learning environment due to their reluctance to change, whereas it takes some time for them to get used to courses and computer-based learning techniques. Traditional-minded students struggle to adjust, but they must accept the new learning environment with an open mind and heart.

Resources Required:

To provide the IT facility to our students, the college has a dedicated ICT Centre which caters to the need of online learning. This center has 45 desktop computers having 100 MBPS internet along with A/V aid. Looking at the requirements, this needs to be further increased. Students would be better prepared for online classes with more and more exposure to such courses if they could be made aware of the advantages of the course, so counselling sessions for students are necessary.

Best Practice 2

Title of the Practice: Computer Awareness Course

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Objectives:

- This course aims at providing basic computer skills to all the B.Sc. First year students of the college.
- To make the students confident and skilful in handling the computers related to their academic and day-to-day works.
- To make them familiar with the Internet World.

Context:

The current tech intensive world requests that the students should utilize web and specialized assets to access huge data related with their scholastics separated from the customary strategies for learning. With a large portion of the students of our college from rural areas, our college has consistently strived for its undergraduates for their improvement every way. As a piece of this drive, the Computer Awareness Course was planned and presented from the academic year of 2017-18 for every B.Sc. First year student of the college.

Practice:

There are two variations of this course. The one variation is explicitly created for the Computer Science students which comprises of cutting edge ideas identified with Indian IT Act, Cyber Awareness, Internet innovations, and so on, and the other variation of the course is produced for rest of the first year students that targets giving essential PC abilities like prologue to Fundamentals of PCs, Working with MS Word and Basics of an Internet.

Every batch is allotted one session per week during which they are imparted with practical skills related to computer handling and working with them. The impetus is more on learning by doing. At the end of semester, they need to appear for a final exam comprising of multiple choice questions and a viable assessment. Apart from regular offline classes, the students were provided access to Moodle LMS through <https://mmwcst.gnomio.com/>. The course was started from 1st August, 2022 and thereafter continued till the end of the session. 274 students were enrolled for this course.

Sr. No	Academic Session	Total number of students enrolled for the course
1	2022-23	274

Evidence of Success:

It has been seen that whatever abilities that are obtained by students from this course has helped them drastically. The course is assisting them with becoming self-reliant with regards to PC related requirements. For instance, students all alone make their e-tasks, project reports, presentations, articles and papers, etc. for which they used to rely upon others already. Web related abilities help them for getting to different internet based assets viably. Besides, they gain crucial contributions on the best way to shield themselves in the cyberspace which is the present need. This has likewise inspired them to get to know the information on on-going patterns in innovation.

Problems encountered and resources required:

- Due to openness and language issues, few learners need more opportunity to get a hand on the technological innovation.
- Practice is the significant issue as few students lack electronic devices at their place.
- Difficult to concentrate on the feeble students by giving them the additional window as they lack required facilities to rehearse at their home.