Shiksha Mandal's

Bajaj College of Science, Wardha

(Formerly known as Jankidevi Bajaj College of Science)

4th Cycle: Assessment and Accreditation by NAAC

Criterion VII

Institutional Values and Best Practices

QIM 7.2.1

Best Practices

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An Autonomous College affiliated to RTM Nagpur University, Nagpur
NAAC Reaccredited 'A' with CGPA of 3.21
(A Linguistic Minority College)

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Ref. No. BCS/ /20 -20

Date : 2̃7 DEC 2022

DECLARATION

This is to declare that the information and data furnished as supporting/additional document in the metric *7.2.1 Best Practices* are true to the best of my knowledge and is verified by IQAC.

Dr. M. R. Chandrakar
IQAC Co-ordinator

Prof. P. V. Tekade
Principal (Offg.)
Offi. Principal
Bajaj College of Science
WARDHA

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AISHE ID: 18638

7.2.1 Best Practices of the Institute

Best Practice 1

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

Objectives:

- To empower the students with new software skills besides regular academic curriculum.
- To expose the students to market driven learning ecosystems.
- To make students acquainted with the state-of-the-art technologies.
- To prepare students ready 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:

In the present scenario, acquiring additional skills or having knowledge of state-of-the art technology is the essential part of learning for everyone. The number of online learning opportunities, including learning management systems and massively open online courses, has increased dramatically over time. As per the need of new education policy (NEP), online courses should replace some traditional physical courses in the near future and allow students to learn from Internationally recognized online platforms.

Most of the students of the institute are from nearby rural areas where they may not have facilities and resources for acquiring computing skills with reference to their subject interest without language barrier as these courses are available in many Indian languages. It is the utmost responsibility of a higher educational institution to provide such facilities for the overall development of the students.

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Anyone who shows 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:

Believing the importance of ICT, the institute has started providing learning facilities in the form of Spoken Tutorial of IIT Mumbai, to the students to acquire software knowledge which is available online.

The Spoken Tutorial project is the initiative of the "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 a topic, called a tutorial. 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 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. students. 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 enrols the students to the portal. This 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

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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 off lectures. At the end of the semester, the 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 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 frequently have the problem of power cut and absence of internet connectivity and data pack bring the limitation to spare their off timings for more online courses which they could do 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

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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 strengthened. 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 and even talked about them with their classmates.

Overall Statistics: Click

Annual Reports of the Practice

Sr. No.	Particulars	2017-18	2018-19	2019-20	2020-21	2021-22
1.	Year wise report	PDF	PDF	PDF	PDF	PDF

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Best Practice 2

Title: Computer Awareness Course

 Objectives:

This course was designed to fulfil the following objectives:

- The primary aim of the Computer Awareness Course is to inculcate skills related to basic computer handling in all the B.Sc. first year students at the institute.
- To make them confident and skillful in handling the computers to perform the
- computer-based tasks related to their academic and day-to-day work.
- To acquaint them and make them familiar with recent trends in the Internet World.

 The Context:

Today's techno-savvy and digital world demands that the students should make use of varied online and technical resources to access a variety of information related to their academics apart from the traditional methods of learning. However, most of the students of our college are from rural backgrounds, and as such most of them lack this exposure to computers and recent trends in the E-world.

Our college has consistently striven for its undergraduates for their improvement in every way. As a part of this drive, the Computer Awareness Course was planned and presented since the academic year of 2017-18 for every B.Sc. first year college student. The course is planned in such a manner that the goal that it targets is mastering the abilities rather than having simple reasonable information.

 The Practice:

This course is run in two variants. The first variant is specifically developed for the students opting for Computer Science as one of their subjects. The contents range from basics of PPT creation and handling, Indian IT Act, Cyber Awareness to Internet technologies, etc., that gives them a basic understanding of net enabled technologies and how to browse the digital ocean of information safely.

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The second variant of this course is developed for the rest of the students and aims at providing basic computer skills which are required by students like computer fundamentals, working with MS Word and basic Internet usage capabilities.

During the first semester, all the students of Biology stream participate in the course and in the second semester, students from Mathematics stream including the Computer Science students participate and learn this course. Every batch is allotted one session per week during which they are taught practically. The emphasis is more on learning by doing. The details of year wise enrolment of the students to the course comprising of both the variants are as follows:

SN.	Academic Session	Total number of students enrolled for the course
1.	2017 – 18	317
2.	2018 – 19	329
3.	2019 – 20	193
4.	2020 – 21	353
5.	2021 – 22	279

At the end of semester, they need to appear for a final exam comprising multiple choice questions and a viable assessment. Prior to the Covid-19 pandemic, the final exam was conducted in offline mode but post-pandemic, the exam is now conducted through the Moodle LMS. For the academic session 2021-22, the course was conducted in blended learning mode where the students were taught practically in offline mode and at the same time the e-resources like study materials, access to pre-recorded video lectures were provided through the Moodle LMS. At the end the exam was conducted through the same Moodle site to which they were previously enrolled for the course. The online access to the e-resources and exam was conducted through the Gnomio site https://firstyearbcsw2021.gnomio.com/user/index.php?id=13. From the academic session 2021 – 22 onwards, the course was shifted to and provided through a dedicated Gnomio site https://mmwcst.gnomio.com/user/index.php?id=2 for the same.

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Evidence of Success:

It was observed that whatever skills were acquired by our students from this course, have helped them radically in their academics. The effects of this mandatory course that we have started since the 2017-18 session could be seen then. A marked improvement has been found in their knowledge of computers and the way they use computers effectively for their work. The course helps them to become self-dependent when it comes to computer-related needs.

For instance, students all alone make their e-tasks, project reports, presentations, articles, and papers, etc. for which they previously used to rely on others. Another marked improvement observed among them was the better use of internet-based assets. Now they alone are capable of carrying out a variety of web-based tasks on their own or with very little guidance from others. Moreover, this course crucially contributed in the best way to enshrine them in 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:

- Because of the poor exposure to computers and language issues, few students need more time to grasp the technology.
- Most common problem encountered is the fear of students regarding the use of computers, which however, is eliminated by itself as they become familiar with those. Sometimes students find it difficult to remember the technical jargon.
- Difficult to give more attention to weak students by providing them with the extra window as students lack the facilities to practice at their home.
- Due to openness and language issues, few learners need more opportunity to get a hand on technological innovation.
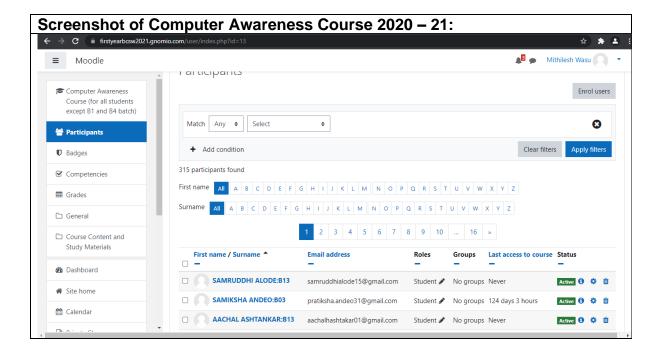- Practice is a significant issue as few students lack electronic devices at their place.
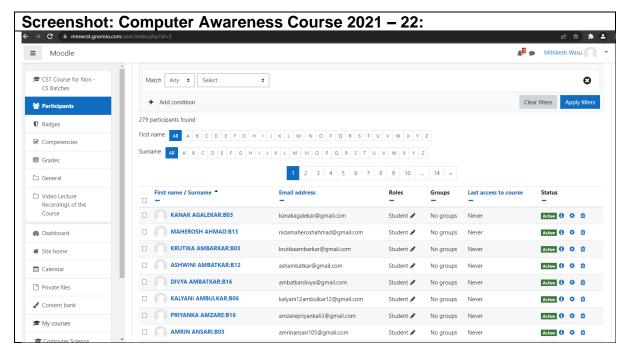
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Screenshots of Moodle LMS for Computer Awareness Course (2020 – 21 and 2021 – 22):

Screenshot of Computer Awareness Course 2020 – 21:

Screenshot: Computer Awareness Course 2021 – 22:

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Year wise Details of Computer Awareness Course

Following are the details for the Computer Awareness Course conducted by the Dept. of Computer Science.

Name of the course	**Computer Awareness Course**
Year of starting the course	2017-18
Year wise enrolment	2017-18: **317** 2018-19: **329** 2019-20: **193** 2020-21: **353** 2021-22: **279**
Exam conducted for the year	2017-18 2018-19 2019-20 2020-21 2021-22
Mode of Exam	2017-18: Offline 2018-19: Offline 2019-20: Offline 2020-21: Online Site: https://firstyearbcsw2021.gnomio.com/user/index.php?id=13 2021-22: Online Site: https://mmwcst.gnomio.com/user/index.php?id=2

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Feedback Statistics of Computer Awareness Course

A total of 352 students were enrolled for the course and amongst them 215 appeared for the examination. Post exam, a feedback form was circulated amongst the students to obtain their opinions about the course. The details can be summarized as follows:

Description	CST Course for CS Students	CST Course for Non - CS Students
No. of students enrolled	38	314
No. of students appeared for exam	27	188
Feedbacks received	13	31
Did the course meet their expectations	CST Course for CS Students	CST Course for Non - CS Students
1. Yes	5	18
2. To some extent	7	8
3. No	1	4
4. Don't know	0	1