

## **BEST PRACTICES (2020-21)**

### **Best Practice 1**

#### *Title of the Practice:*

STUDENT CENTRIC STRATEGIES TO ENSURE AN EFFECTIVE TWO-WAY TEACHING-LEARNING MECHANISM KEEPING PACE WITH THE OUTCOME BASED EDUCATION

#### *Objectives of the Practice:*

Today's education is undergoing a paradigm change away from input-output focused education and toward outcome based education. In the current situation, a student-centered teaching learning process is vital. What matters is how much the pupils learn rather than how much we educate them. As a result, the institution has taken steps to develop teaching-learning methodologies from the perspective of students and how they will benefit them in their future studies/jobs. In comparison to the small percentage of students who take advantage of work prospects, the majority of students at this institution continue their education or take competitive exams. As a result, keeping up with modern higher education is the goal of this approach.

#### *The context*

Outcome-based education has brought its own set of issues to India's higher education industry, particularly given the country's low gross enrolment ratio in comparison to other countries. The use of ICT-enabled technologies is commonplace in all aspects of life, and it is one of the most effective ways for student-centric teaching-learning in outcome-based education. Our teachers have to learn how to use ICT in the teaching-learning process by attending training programmes, workshops, watching online videos, using online platforms, and resolving challenges through conversations.

The pandemic crisis necessitated the development of experiential learning methods. In other departments, especially during the pandemic, connecting students' practical experiences with their applications to real-world situations proved difficult. In a student-centered teaching-learning system, cultivating lifelong learning habits of critical thinking and problem solving is vital, and tactics were implemented appropriately. Students' communication and presenting abilities were also to be developed in order to stay up with modern schooling.

#### *The Practice*

The practice includes the following:

- **Assessing the learning levels of students:** The initial stage in a student-centric teaching-learning process was to assess the students' learning levels and build the teaching process accordingly. This was accomplished through interactive meetings, class question-and-answer sessions, formative evaluations, and academic counselling from the mentors. The advanced learners were encouraged

to participate in contests, creative writing, and the processing of their research-oriented thinking in many dimensions, while the slow learners were given special attention through remedial sessions and help outside of class hours.

- Experiential learning by studying real life problems for practical classes and projects

Students in the science stream completed practical classes according to their curriculum. A few departments, such as Zoology, Botany, Geography, and Bengali, also organise educational tours to various parts of India every year. For example, zoology honours students travelled to Digha, Chandipur, Dooars, and Jhargram to research the topography of the Digha coastal region, the diversity of numerous marine species that live in the Digha Sea, and the identification of various types of fish found in the Digha fish market. They also researched the various diversity of animals found in the national park during field visits and had a good understanding of the distinction between a national park and a sanctuary. Exploring plant species on the college campus for botany honours students. Botany Hons students also went to Vishakapattanam to research marine vegetation and Mountainous vegetation of Araku Valley, and to Darjeeling to investigate Lava and Lolegaun vegetation, as well as to Gorumara National Park Alipurduar. Students from Bengali Hons. visited Lalgarh in Paschim Medinitur, Sundarban in 24 parganas, and Garpanchakot in Purulia's Ayodha Mountain to learn about the socio-economic situations of the local people.

- Computer-assisted approaches and Learning Management Systems (LMS): When online classrooms began using Google Meet or Zoom App in March 2020, the practise of employing a Learning Management System was established. Teachers were supplied their study materials and a copy of reference study materials after performing online classes for uploading to the College's LMS menu. Students utilised to download study materials based on their requirements. It is extremely beneficial to individuals who are unable to attend online classes or who have slow internet connections. This enabled them to implement computer-assisted teaching approaches, which proved to be the most effective during the pandemic.

- Students were given the freedom to actively participate in the teaching-learning process through participatory learning and the selection of elective papers. Students used group discussions, debates, and student seminars, students acting as teachers in the classroom, tale reading sessions, student power-point presentations, and other tactics. Students in the Semester-V arts programme had the choice of choosing their general subjects, while students from various departments had the option of selecting from a variety of skill enhancement courses.

- Fostering critical thinking and problem-solving skills during the learning process: This was accomplished by providing students with assignment topics but not answers. Students worked in groups during practicals to exchange ideas and solve a problem.

- Feedback taken from students on curriculum and teaching-learning process: The University has been using a learning outcome-based curricular framework since the academic year 2019-20. The IQAC collected student feedback on curricular aspects and forwarded it to the university with suggestions. Students were asked several questions, all of which were answered appropriately, such as whether the departments discussed the learning outcomes with them, whether the curriculum is need-based and meets their expectations, whether the curriculum prepares them for employment, whether the teachers used computer-assisted teaching methods, whether the internal assessments were discussed with them, and so on.
- Handling challenges with an effective mentoring mechanism: In the academic year 2019-2020, the university formally introduced a student mentoring system. Mentors facilitated interactive sessions and maintained touch with their mentees to provide guidance and address concerns as needed.

### **Evidence of Success**

- Students cleared JAM examinations with All India Ranks: From 2018 to 2020, 15 students of different science departments have cleared the JAM examinations with good All India ranks, including the top ten ranks in India by three students. In the year 2021, total 10 students have cleared the JAM examinations with all India tanks.
- Students placed for higher studies in IITs, IISER, Banarus Hindu University (BHU), University of Calcutta, The University of Burdwan and other institutes of national importance
- Students have participated in poster competitions, quiz competitions, presentations and other online events organized by external agencies and also won prizes:
  - Student project was selected for CSIR summer research training programme in 2020
  - The performance of students in university examinations has improved significantly from 2018 to 2020
  - The computer-aided methods of teaching-learning activities adopted since 2019 helped the institution to cope up successfully with the challenges of online education during the pandemic situation since March 2020.

### **Problems Encountered and Resources Required**

- Because the affiliating university takes so long to perform the semester examination and start classes for the next semester, the teaching-learning activities are occasionally hampered.
- The institution faces the problems of funding for conversion of more classrooms into the smart classroom and the administration has applied for renovation and upgradation of laboratories and classrooms
- Digitization of library and e-resources has also been applied under the RUSA scheme by the institution

- Procurement of more computers is required to improve the student: computer Ratio

## **Best Practice 2**

### **1. Development of social responsibility among the students during pandemic (COVID - 19) period.**

#### **2. Objective of the Practice:**

The syllabus under Choice Based Credit System (CBCS) chemistry is quite application orientated. The reagents, easily available in the chemistry Laboratory could be used in everyday life, specially, in the pandemic period due to COVID -19. For example, we can make hand sanitizer as per WHO guideline using some commonly available Laboratory reagents. The bulk preparation of hand sanitizer could help local people during this pandemic crisis. We have distributed these products to the poor and needy people through the college under the scheme of Unnat Bhart Aviyan (UBA) team members and through the manpower of Sub divisional officer (SDO), Kharagpur.

#### **3. Need Addressed and the Context**

The department of Chemistry of our college organised a workshop for precaution against CORONA virus infection and Hand sanitizer preparation. The purpose of the workshop was to give training on the Chemistry and Physics Hons students, how to prepare sanitizer with the help of readily available chemicals from laboratory of Chemistry department. As the availability of hand sanitizer was not sufficient at the initial phase of CORONA infection and market price of it was too high; the initiative was highly acclaimed.

#### **4. The Practice**

The Department of Chemistry organised a Hand Sanitizer Preparation Programme as per WHO guidelines on 24.03.2020 for the college students, teachers and staff and for the people of Kharagpur municipal area as well with the infrastructural support of Kharagpur College and the SDO, Kharagpur. According to the WHO guidelines; hand sanitizer has to contain at least 70% alcohol. So we used 70% isopropyl alcohol, 1% hydrogen peroxide, 10% glycerol and the rest amount of distilled water to formulate a good quality of hand sanitizer that can be effective against CORONA virus. The standard formulation prepared frequently as the need of local body and distributed to them through SDO (Kharagpur). The SDO of Kharagpur, Mr. Vaibhav Chowdhury was also present during the hand sanitizer preparation program in the Chemistry department.

Gradually, with the time passing on, it became clear that combating COVID -19 pandemic was not only depended on sanitizer, musk and soaps etc. The restrictive policies also had to contain psychological therapy such as mental support programme, counselling etc. Accordingly, class - wise online mental health support and counselling program were started. In each program, teachers

of the concerned departments were also involved. In every session, Mr. Prasenjit Basak, an eminent clinical psychologist of Midnapore Medical College & Hospital used to explain severity of the pandemic and necessity of the lockdown. Thereafter he used to describe what kind of mental problems could arise out of this, and pointed out the ways to get rid of this crisis safely. He reminded the students about the general safely measures against COVID-19 such as covering face with masks, washing hands frequently with soaps/sanitizers, properly using and disinfecting masks, maintaining minimum distance of 1 metre, avoiding touching mouth, nose or eyes etc.

A class wise mental support schedule is given below.

<b>Semester/Year</b>	<b>Subjects</b>	<b>Date</b>	<b>Time</b>
PG (Sem II & Sem IV)	Bengali, English, History	29.04.2020	12.00 noon onwards
Sem -II	Maths, Physics, Chemistry, Geography, Economics, Zoology, Botany and BCA Hons.	30.04.2020	12.00 noon onwards
Sem -II	Bengali, History, Political Science, Philosophy, Sanskrit, Hindi and B.Com Hons.	02.05.2020	12.00 noon onwards
Sem IV	English, Bengali, History, Chemistry, BA General	06.06.2020	3.00 pm onwards
Sem II	English, B.A. General	06.06.2020	3.00 pm onwards
Sem - II	BA General & BSc Hons. & General	24.05.2021	12.30 pm onwards
Sem – II	B.A. Hons. And B.Com Hons & General	26.05.2021	12.00 noon onwards

## **5. Evidence of Success:**

On behalf of UBA cell Kharagpur College, West Bengal (AISHE Code-C-19091), we arranged COVID 19 awareness cum relief program in two adopted villages Barkola and Walipur, on 03.08.2020. Some of the teachers and students of our college along with some NSS volunteers also participated in the said programme. Maintaining preventive measures as laid by the Govt, sanitizers (prepared in the laboratory of the Deptt. of Chemistry, Kharagpur College) masks and soaps were distributed among more than 200 families. We arranged awareness campaign (with 10-15 villagers at a time, with the restriction of physical distancing) about the preventive measures and good practices to combat COVID-19. The proper way of hand washing and wearing of masks have also been demonstrated. We received very good response among the villagers.

During mentoring and parent teacher meet; we came to know that after the mental support cum counselling program the students had shown certain changes about their attitudes. After every speech delivered by Mr. Basak, students used to ask several questions regarding the problems they had encountered during the period. The resource person used to satisfy their queries. We have a realisation the changes in the attitude are direct or indirect impact of such question answer session.

#### **6. Problems Encountered:**

As during Lockdown availability of public transport facility was poor and due to anxiety among the student about getting infected, the number of students during the hand sanitizer preparation and its distribution was limited.

#### **7. Resource Required**

For sanitizer preparation; Raw materials like ethyl alcohol or isopropyl alcohol, 48% hydrogen peroxide and glycerine were required.

Online Mental support cum counselling programs conducted using Google meet platform. To access the program in continuous mode and interact with the councillor, students require a smartphone and hi-speed internet connection. Few smart class rooms to be constructed in the college for conducting online classes and webinars

#### **8. The Institution Name: Kharagpur College**

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Website: [www.kharagpurcollege.ac.in](http://www.kharagpurcollege.ac.in) Year of Accreditation: December 2016, Grade awarded by NAAC: B++ Contact person: Dr. Bidyut Samanta, Principal.