

Best Practices

1. Students Assessment Tool - Digital Course File (DCF)

Objectives of the Practice

- To develop outcome based system.
- To build up the system which provides student assessment information at a click.
- To develop the system which will give the attainment level of Course Objectives (Cos) and Program Objectives (POs).
- To develop a systematic way to improve the performance.

The Context

At DYPU, from the last few years, we have been striving to bring in outcome based education (OBE) system which is proposed and emphasized by organizations like NAAC and NBA. DYPU has been very keen for introducing changes in the existing traditional approach to improve the quality of technical education. For decades the institutes have been following the practice of maintaining the student data of courses taught and assessing the quality of teaching by examining hard copies of student data. A typical course file is of 100 pages on an average so it results in huge data. A thorough examination of this data can lead to recognition of meaningful patterns and helps in identification of easy and difficult courses as well as bright and weak students in each course. However assessing such a huge data is cumbersome and puts unnecessary burden on the teaching fraternity and consumes a lot of effective academic hours.

The Practice

At DYPU we have found the solution to this problem by making use of digitalization of the data in the form of “Digital Course File”. In DCF, an assessment of students performance is based on his/her term test & assignment marks. The algorithms have been developed in MS Excel VBA to process the collective data in order to differentiate between bright and weak students and measure the attainment of all course objectives. This analysis is helpful to identify difficult courses so that remedial classes can be arranged to support the weak students and redesign of teaching plan as and when required. Based on the analysis it is possible to answer the following questions:

- What is the number of bright and weak students in a given course?
- What is the COs & POs attainment of a given course?
- What are the difficult courses where redesign of teaching plan is required?
- What are the courses where more emphasis is required on the prerequisites to enhance the grasping of the course by students?
- Refer the syllabus for the concern subject provided by University.
- Prepare course handout containing Course Objectives (COs), Course Outcomes, Program Objectives (POs), mapping of COs with POs, Program Specific Outcomes (PSOs), CO Weightages, Lesson Plan and attainment of course outcomes.
- Program Outcomes (PO) are decided by the department based on Bloom’s taxonomy as recommended by accrediting bodies.
- Faculty has to do mapping of CO's with POs, prepare chapter plan, list of experiments, assignments, term test question papers and assessment schema covering all COs as per weightage.
- Next step is to start filling data in DCF file which includes subject & faculty details, student details as per the batches, CO & PO details, CO-PO mapping, term test marks, assignment marks, laboratory experiments, attendance, term work details etc.
- The outcome of DCF is in the form of identification of bright and weak students, attainment of COs and POs for a given course.

We also conduct an orientation program for providing guidelines to make faculties acquainted with DCF.

Evidence of Success

The adoption of DCF has brought forth the following:

- DCF was implemented in the academic year 2017-18 so far 180 Digital Course files have been generated.
- After digitization of all the data, it is possible to calculate and reconcile the performance of all the students and extract this data as and when required. DCF has thus provided an interactive way to improve the performance.
- As the data of students is made available through DCF, the process of managing student data became time saving and thus allowing the faculty to devote more time for primary function of teaching and learning.
- With DCF, it has become possible now to check whether all COs and POs of a given course are attained.

2. Initiative towards Green Campus

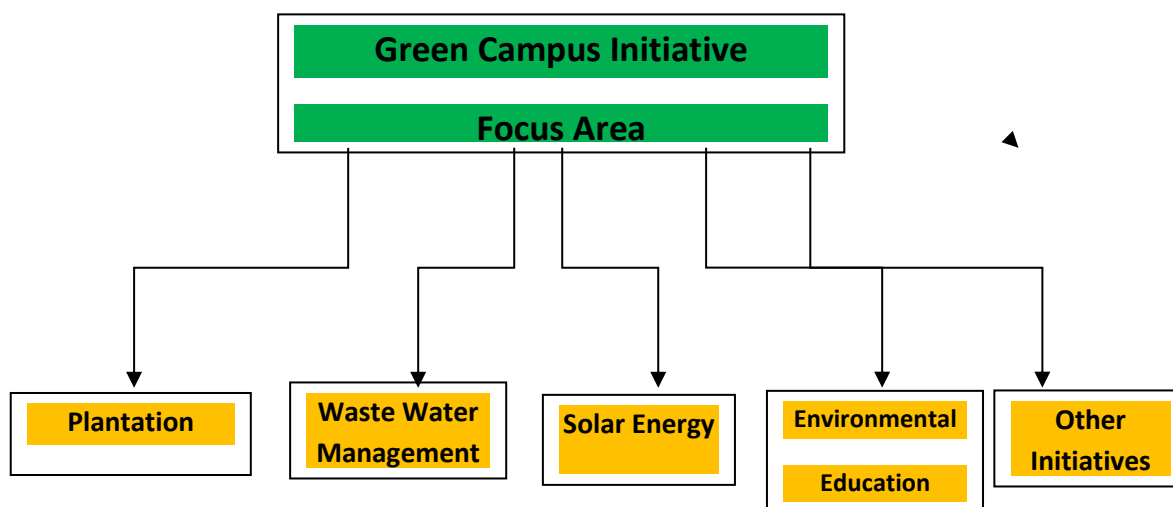
Objectives of the Practice:

- To develop responsible attitude and commitment towards green environment.
- To promote clean energy.
- Optimum utilization of water.
- Motivate students and staff through environmental education.

The Context:

- Air pollution is increasing day by day. It has gone to such a high level in some parts of the country that it has become cause for many human respiratory diseases and has affected the human health significantly. This arises the need to treat the pollution issues on high priority basis.
- The industrial area in the vicinity of the campus is polluting air by carbon emission. The institute has taken an initiative to contribute in counterbalancing the emission.
- Due to process of industrialization the load on the conventional energy sources is increasing significantly so there is need to use nonconventional energy sources.

The Practice :



The institute strongly believes that environmental sustainability should be integrated in every aspect of life. To achieve this goal the institute is emphasizing on the following areas:

- **Plantation:** We think that this world can be made a better place to live by taking such initiatives like the Green Campus. Plantation allows us to set an example on how sincere approach and constant efforts ensures solution to the environmental problems. The institute has taken efforts to cover the campus by nice greenery including lush green lawns, avenue trees and gardens. Approximately **126** species of plants of environmental and medicinal importance are planted in an area of 40 acres. Total count of the plants including all the species is more than 19000.
- **Water:** In our campus, liquid waste management is achieved by constructing a sewage treatment plant of 0.7MLD. The treated water is used for gardening purpose.
- **E-Waste management:** The generated e-waste is handed over to the authorized dealer periodically.
- **Energy:** The institute has taken the steps to increase contribution of solar energy in total energy consumption. Solar plant of capacity 283.20 KW is in installation phase which will reduce the campus dependency on the conventional energy sources. The institute is also committed to provide the excess electricity generated by solar plant to the state electricity board.
- **Environmental Education:** The institute has conducted numerous environmental education programs such as solid waste management, liquid waste management,

setting up of medicinal plant nursery, water management, tree planting, energy management, landscape management, pollution monitoring methods etc. The number of display boards on environmental awareness such as – save water, save electricity, no wastage of food/water, switch off light and fan after use, plastic free campus etc. has been placed in the campus.

The institute has recently organized a program on awareness of pollution caused by use of vehicles by students and staff members. This activity helped to spread the awareness on carbon emission at individual as well as social level.

The institute encourages students to carry out the projects based on environmental issues as well as non-conventional energy sources.

Other Initiatives:

- Tree plantation by the students at MIDC Talegaon police station and nearby villages.
- Drip irrigation is implemented at few places.
- College building is beautified with indoor plants at different places.

Evidence of Success

D Y Patil Technical campus has been awarded State level first prize with “**Chhatrapati Shivaji Maharaj Vanashree Puraskar**” in 2016. This award is in the form of cash prize of Rs. 1 Lac and a trophy. This award is given by **Government of Maharashtra** in the field of social forestry to the organizations performing best in plantation and conservation.