

## **Best Practice -I**

### **1. Title of the Practice: COs and POs assessment software**

KITS planned to go for NBA Accreditation for all the Engineering departments. To this end our course curriculum and evaluation is designed to map the Course Outcome, Programme Outcome, Programme Educational Outcome. To facilitate this process KITS has designed a software to do a rigorous mapping on a monthly basis to ascertain the CO PO outcome and to give proper indications to the stakeholders for effective course curriculum. The developed software will be copy righted and will be made available for other Institutions as well.

### **2. Objectives of the Practice**

To measure the attainment of course outcomes and programme outcome through direct and indirect assessment components which ensure that the students would achieve predefined outcomes at the time of graduation for the courses and the programme in which they are enrolled.

### **3. The Context**

The challenges faced are it is essential to decide how to link course outcome attainment and program outcome attainment. While measuring course outcome can be very easy but linking it to the attainment of program outcome is another matter. The logic behind this method introduced is that students will only achieve program outcome if only they achieve the associated course outcome. Weightage can be modified according to the mapping. Before any assessment is done, it is important to set how one want to assess the course outcome. This has to be specific up to the number of question in examination as well as the components of evaluation in the course exit survey and project. The level of attainment also needs to be outlined and agreed among course instructors so that everyone will have the same standard to be referred to. All the mark details related to a particular course should be kept in record for assessment. The interface should be as simple as possible which can be used by any type of user.

### **4. The Practice**

Assessment in Outcome Based Education can be done in many different ways by the Universities to mirror the process of Continuous Quality Improvement (CQI). The assessment for OBE is rather burdensome and will take a lot of energy in keeping track of students for every course at any given time. And this has to be done continuously for as long as the program needed to be accredited by the respective Engineering Accreditation Council approved by Washington Accord. The existing method of measuring the attainment through Microsoft Excel was inefficient as designing a program-level assessment, collecting assessment data on an outcome, and analyzing the results is complex as it involves large number of records with less validation. The entire process was automated as software with options for validation of all the data with well-designed user interface and detailed reports.

The software is used measure the students' performance through direct and indirect assessment components in respect to Outcome Based Education concept. The software is managed by an administrator who provides registration of course instructor and the student for the corresponding courses. In addition he has the option to generate the overall PO attainment report. The course instructor maps the course outcomes with the programme outcomes, enters the marks for all

components, processes the course outcomes and generates the reports with attainment percentage of course and programme outcome. The project outcomes were mapped with the programme outcomes and the mark entry and the generation of reports was done by project coordinator. The students are provided with the option of attending survey for different categories of questions which are mapped with the programme outcomes and the category wise attainment and overall attainment percentage is evaluated and the reports are generated. The constraints with this practice are the course instructor has to maintain the record of course outcomes for the subject he handled and the distribution of marks for the Internal/External component which can be given as an input for finding the continuous improvement.

In direct assessment, the flow of measurement is taken from students' internal marks and also final exam. The marks are then converted to find whether they meet the course outcome set by instructor. After getting the course outcome score, contribution of each course to program outcome can be measured progressively until students complete their 4 year program. The method is found to be very practical to be implemented for any instructor to measure the course outcome and program outcome. In the Indirect assessment, Course exit survey method is used for assessing the percentage of attainment. In the overall attainment, a weight of 0.7 is given to direct assessment while 0.3 is assigned to indirect assessment. In addition, it would contribute to the continuous quality improvement process as specified by Washington Accord.

## 5. Evidence of Success

The software was deployed and used successfully by the Department of Civil and Mechanical Engineering for assessing the programme and course outcome as a criterion for accreditation by NBA. The course instructors use the system periodically for mapping, mark entry and evaluation of their courses from the course outcome and programme outcome attainment reports generated by the system. In addition attainment reports for course end survey and projects were also generated for assessment and evaluation.

### Assessment of CO- Direct Method- Screen Shots

The screenshot displays the 'CO-PO ASSESSMENT' web application. The interface includes a navigation menu on the left with options like Home, PO Mapping, CO Mapping, Mark Entry, CO Attainment, PO Attainment, and Course End Survey. The main content area shows the 'View PO Mapping' page for the course '09CE221/FOUNDATION ENGINEERING - B' by instructor 'Mrs. Priya. A. Jacob, Asst. Prof. 1437' for the '2014-2015 - Odd Semester'.

**Course Outcomes Table:**

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1 Apply the basic theories in determining suitable soil parameters	2	3	-	-	-	-	-	-	-	-	-	-
CO2 Interpret the application of field and laboratory tests.	-	2	-	3	-	-	-	-	-	-	-	-
CO3 Perform geotechnical design of shallow and deep foundations and understand limitations and uncertainties in geotechnical design.	-	-	3	-	-	2	-	-	-	-	-	-

**Programme Outcomes Table:**

Programme Outcomes
PO1 Apply knowledge of mathematics, science and engineering to solve the problems related to civil engineering

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# Assessment of CO- Direct Method- Screen Shots

## CO-PO ASSESSMENT

Account

- CO Attainment
- PO Attainment
- Course End Survey

Mark Statement - Internal Assessment II

10 records per page Search:

#	Reg.Number	Student Name	Attendance	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	CO1	CO2	CO3
1	UR10CE017	PRADEN I	PRESENT	1	1	1	1	1	1	2	3	2	0	2	4	10	55%	73%	53%
2	UR10CE126	M.P.NARIN	PRESENT	0	0	1	1	1	0	1	1	2	3	1	4	9	55%	44%	47%
3	UR11CE011	ASHLY GEORGE THOMAS K	PRESENT	1	1	1	0	1	1	3	2	2	3	6	8	8	73%	73%	73%
4	UR11CE012	ASHLY PHIL S	PRESENT	1	0	1	0	1	3	1	1	0	1	8	6	8	64%	22%	73%
5	UR11CE013	ASHWIN N	PRESENT	1	1	1	0	1	2	2	2	3	3	4	7	10	82%	73%	73%
6	UR11CE014	ATHITHAN R	PRESENT	1	1	1	0	1	2	3	2	2	2	4	6	8	73%	73%	60%
7	UR11CE015	AVANESHA	PRESENT	1	1	1	0	1	2	2	1	3	1	6	5	10	64%	67%	73%
8	UR11CE016	BASU,JOHNY	PRESENT	1	1	0	0	1	0	3	3	3	0	0	8	9	27%	100%	57%
9	UR11CE017	BELVIN K MATHIEW	PRESENT	1	1	1	1	1	3	3	3	3	3	10	10	10	100%	100%	100%
10	UR11CE018	BENITTO THOMAS GEORGE	PRESENT	1	1	1	1	1	3	3	2	3	3	10	6	10	100%	89%	87%

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## CO-PO ASSESSMENT

Admin

- Dashboard
- Create Role
- Academics
- Course Outcomes
- Project
- Direct Assessment
- Indirect Assessment
- Backup Database

Home > Programme Outcome Assessment > Graph

### PO Attainment

print

Batch	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
2011-2015	68	69	69	68	70	71	71	74	76	69	73	69

### PO ATTAINMENT

Programme Outcome	Attainment %
PO1	68%
PO2	69%
PO3	69%
PO4	68%
PO5	70%
PO6	71%
PO7	71%
PO8	74%
PO9	76%
PO10	69%
PO11	73%
PO12	69%

Benefits:

- Improves communication about curriculum among faculty
- Improves program consistency
- Increases the likelihood that students achieve program level outcomes
- Encourages reflective practice

## **6. Problems Encountered and Resources Required**

All academic programs are required to develop and implement an outcomes assessment tool to measure student learning outcomes, for continuous quality improvement. To facilitate continuous program level improvement, assessment and feedback are crucial for helping student learn. In order for students to gain insight into their learning and their understanding, assessment should happen continuously and provide information about the levels of understanding that students are reaching

A web based system with a server with a MYSQL database is required to manage all the records of the mark entry and evaluation, maintain the student's assessment information and analyze the attainment. The end users require a browser with internet facility to access the web based system for mapping and mark entry. This evaluation determines how well a programme is progressing over the semesters. The course outcome attainment results enable the faculty to make targeted improvements or affirm current practices efficiently and effectively. Therefore, it is important that the tools used provide the capability to accurately identify the practices that need improvement.

## **Best Practice-II**

### **1. Title of the Practice: Student Mentoring**

Mentoring is one of the best practices practiced in our University. Being a fully residential University, all the students stay in hostels. Since they stay away from home, the hostels become their 'second home'. Director – Campus life, Chief Warden, Joint Chief Warden (JCW), Warden, Deputy Warden, Senior Resident Advisor (SRA) make their stay comfortable and help them in building their conduct and character. University provides a faculty member for 22 students as a mentor. Every Mentor counsels the student in academic matters, personality development and provides care and counselling.

### **2. Objectives of Innovation:**

The main objective of 'Mentoring' is to produce graduates with good conduct and character. Graduates of our University possess high levels of academic excellence, professional competence, exemplary values and spiritual empowerment.

Parents send their wards to our University with an expectation that their wards would be shaped well physically, psychologically and spiritually and they would come out as holistic persons. Mentoring helps in meeting the aspirations of parents and all other stake holders.

We need to be compassionate with each other. Graduates of Karunya are trained by Mentors, SRAs and Counsellors to be compassionate to others. They are trained to understand human needs and pain and to provide necessary help.

### **3. The Context.**

Mentoring is a youth development strategy that can create a path to successful adulthood` and career for the students.

- A mentor will have a maximum of 22 students (Mentees) or 30 in PG classes allocated to him/her.
- The mentees will be attached to the same mentor for the entire course of study, except during the I Year B.Tech.
- The mentors shall meet the mentees regularly and record the outcome of the meetings in the Computer system. The details about each mentee will be recorded and periodically updated in the Computer system.
- The mentors shall update the mentee's parents about the progress of the mentees.
- If a student violates the code of conduct, his/her mentor shall be a member in the disciplinary Committee.

### **4. The Practice**

#### **Attendance**

The mentor shall take care of the attendance of the mentee. The attendance in assembly and class has to be ensured following the guidelines of the University. Also, mentors are responsible to monitor and advise and take necessary follow-up actions with regard to students, who are on 'out of rolls' (If a student does not pay the tuition fees, he is out of rolls until he/she pays the fees dues) and those absent from residences.

#### **Academic matters**

The mentors shall attend to the academic matters of mentees, internal assessment marks, semester results and arrear coaching, if relevant.

#### **Other areas of care**

The mentors shall look into the following areas with regard to their mentees:

- Behavioural and discipline matters
- Physical health
- Spiritual growth
- Achievements, talents, scientific achievements
- Extra, co- curricular achievements

#### **Academics**

- In the review meeting, immediately after the Internal Assessment tests and the semester results, the mentor shall appreciate the mentees who have performed well. This will be placed on record in the Computer system.
- The mentor shall interact with the mentees who have not done well or failed in the internals and advise them to improve their performance. The mentor shall extend all possible assistance to improve the academic performance of the mentee. This will be recorded in the Computer system.
- In both the cases mentioned above email/post will be sent to the parents / guardians by the system on the performance of their son / daughter / ward.

## **Care and Counseling**

- The mentor during the periodic review meeting shall counsel the students. The well behaved students shall be appreciated and others shall be properly cared for and counseled.
- In cases where expert care and counseling is required , the mentor shall consult the residence counselor and identify the counselor/expert to whom the mentee should be referred. The details of the mentee shall be communicated to the counselor/ expert by the mentor.
- The mentee will also be informed about the counselor/expert by the mentor.
- The Counselor/ expert shall directly talk to the mentee for further follow up.

## **Personality Development**

- The mentor shall encourage the mentee to develop and channelize his/her skills and talents through an appropriate forum or activity of the University (fine arts, sports, extension activities, workshops, conferences, DoVE, association activities, etc.).
- These are aimed at the overall development of the personality of the student so as to make him ‘Arise and Shine’.

### **Evidence of Success:**

When we take a survey from Employers of our passed out students, we receive good feedback from them on their communication skills, identification of solutions, planning skills, organizing skills, service to society, commitment, sincerity and integrity.

## **6. Problems Encountered and Resources**

Senior faculty members have experience to counsel students, whose age is ranging from 17 to 23. When the age difference between the mentor and mentee is small, the mentoring is not effective. Male faculty members mentoring boy students and female faculty members mentoring female students go well. When the Mentor-mentee belong to opposite sex, there are limitations when they deal with the personal problems of students. It is required to have the same male female ratio for faculty members as that of students.

## **7. Notes:**

When we analyse the feedback received from Parents, alumni, employers and all stake holders, we find that Mentoring plays a larger role in developing a compassionate and peaceful society which will live in harmony in any part of the world.

