

## Report on the Faculty Development Programme on “Outcome Based Education” organized by Department of Information Technology in association with E&ICT Academy, NIT Warangal from 27<sup>th</sup> June to 2<sup>nd</sup> July 2022

### Day-1 (Forenoon) (27-06-2022)

The FDP started with inaugural session by Prof N V S N Sarma, Director IIIT Trichy as the keynote speaker. Prof. S.V.Ramana, Principal, Vasavi College of Engineering and Prof.K.RamMohan Rao Head, Department of IT also attended the session.

In his address, Prof.K.RamMohan Rao introduced the college and its achievements and briefly introduced about the FDP.

Principal in his message motivated the audience with the importance of OBE in the current scenario and asked all participants to participate actively and make best use of the FDP for themselves and thereby for the students and the institution.



The forenoon session started with Prof NVSN Sarma delivering about “Outcome Based Education and Pedagogy”. As part of his lecture he discussed ‘Structure of OBE and Pedagogy’ which described the flow of OBE to be followed starting with framing Mission and Vision Statements, Program Educational Objectives, Course of Study, Technology Tools, Evaluation process and finally Teaching Learning Process.

He also discussed framing the curriculum based on the current market trend or the current market requirement. ‘T’ structure has to be followed in framing the curriculum.

The Principles of OBE were discussed which are clarity, expectations, designing and expanded opportunities. Main focus is on Teaching Learning Process. How the Assessment should be following Bloom’s taxonomy was also discussed.

Triangle of Success : Skills , Attitude, Knowledge was focussed.

Based on the industry requirement the curriculum should be framed. Starting with final year the subjects needed are to be identified, then third year and second subjects which should be the base and support for the outcome. First year should always be a bridge between twelfth and engineering. Any other subjects that may be needed can be included as electives.

## Day-1 (Afternoon)

The afternoon session was taken by Prof. K. Babu Rao, Director, Navayuga Infotech Ltd. This session focussed on NBA Accreditation Criteria.

Each of the criteria from 1 to 10 were briefly discussed. As part of this discussion, the terms Objective, Outcome, Programme Educational Outcomes (PEOs) were focussed. The requirements for Tier I and Tier II were also discussed.

Following criterions were discussed in detail during this session.

Criterion-1: How to frame Mission and Vision PEOs, the stakeholders who should be involved, the points for each sub criteria. The process for dissemination and creating awareness among stakeholders and its necessity were focussed.

Criterion-10: Governance, Institutional Support and Financial Resources. Availability and Institutional Strategic plan and its effective implementation and monitoring. These are the key points of criteria-10 that were discussed. Each of the sub criteria and the corresponding points for each of the sub criteria, the required documentation supporting them were mentioned. The institute level facilities and their effective utilization, effective vs efficiency was pointed.

Criterion-8: This criterion is about First year Academics. This is the criteria where we should get a 'Y' out of seven 'Y's and three 'C's needed for Tier-I institute for full accreditation. How to calculate Academic Performance, Assessment Process for evaluation PO attainment were discussed.



## Day-2(Forenoon) (28-06-2022)

The second day of the FDP started with a session by Prof. T.Ramesh, professor Department of Computer Science and Engineering, NIT Warangal.

The topic discussed by Prof.T.Ramesh was "OBE - A Criteria wise Overview".

The terminology like Outcome, Target, TLP, Attainment was the first to be discussed.

To understand the attainment better student feedback is needed at two levels, after the course and exit feedback to be taken at the end of the programme (after 4 years of engineering).

The hierarchy to be followed for quality maintenance IQAC. It should start with department level and at institute level having external committee members from industry and alumni.

The steps to be followed for OBE documentation.

1. Defining the process for Vision and Mission statements.
2. Defining Course Outcomes, CO-PO mappings.
3. Fixing of targets.
4. Measurement of attainments.
5. Identification of gaps.
6. Remedial actions, preparedness for revision.

TLP: Teaching Learning Process

- The Gurukul Age – Marjala Tatvam
- Teacher Centric -- Markata Tatvam
- Student Centric -- Kishora Tatvam this is the need of the hour.

Components of OBE cycle

- The attainment of the outcomes Must be Measurable
- The NBA criteria were briefly discussed.

The evaluator's perspective of assigning the points and their expectations from the institution were explained.

## Day-2 (Afternoon)

In the afternoon session all the NBA criteria were discussed. What documents are needed, what the NBA committee expects and the necessary proofs for each criteria were discussed. Some of the key points are:

- Role of faculty – Innovations in Teaching Learning Process and Academic Research are main.
- How to write CO statements, Programme Specific Outcomes (PSO), PEOs were discussed in detail with examples.
- Assessments and their types and how to assess the attainments were looked at in detail.



### **Day-3(Forenoon) (29-06-2022)**

The speaker of third day of FDP was Prof. K.Srinivas, NIEPA, New Delhi.

The session was about Blended Mode of teaching which is the New Educational Policy (NEP).

The speaker was very motivational. The main points that were emphasized were

- Basics of being a teacher
  - Domain Competence
  - Pedagogical Competence
  - Technical Competence
  - 3P's – Passion, Patience, Perseverance.
  - Adaptability to the eco system
- How can we use the technology for this blended mode.
- The primary objective of a teacher:  
To make the process of learning
  - Impactful
  - Engaging
  - Interesting
  - Challenging
- 21<sup>st</sup> century class
  - Information is no longer a premium
  - Impossible to compete with WWW
  - Assimilate the information
  - Teacher's role – facilitator
- The six essential strategies needed for a teacher
  - Course planning & designing
  - Selecting appropriate pedagogy
  - Content development
  - Selecting the delivery platforms
  - Course transaction
  - Activities, Assessments, Interaction
- Various tools that can be used for blended mode were introduced to the participants.

### **Day-3(Afternoon)**

The afternoon session was a hands-on session trying to add videos that can be shared with the students covering the following points:

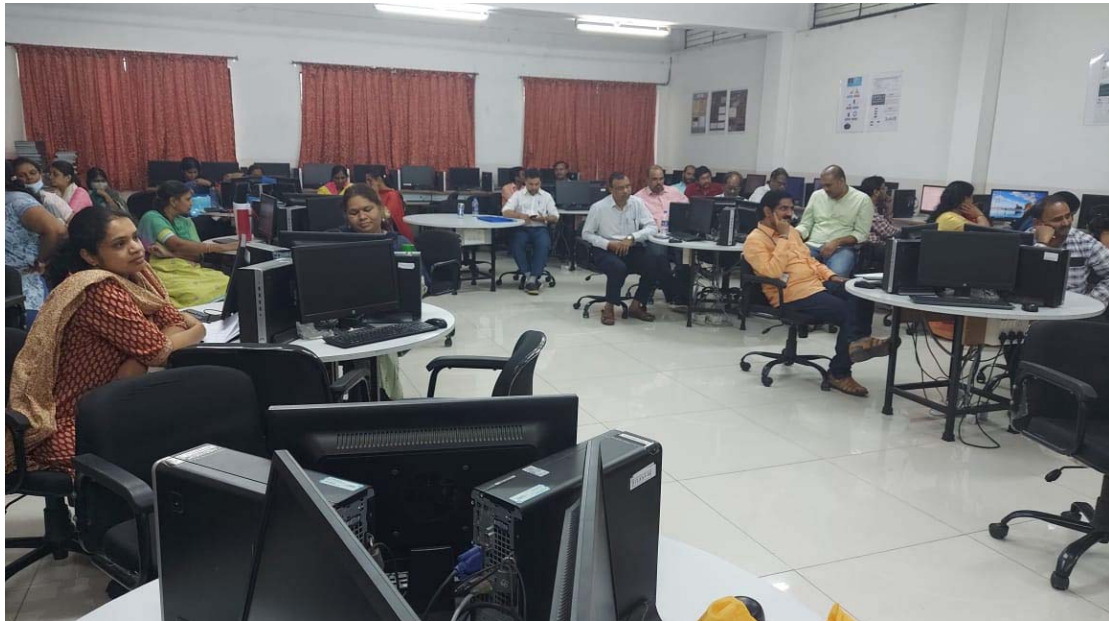
Role of a learner in the Blended Environment

- Responsible learner
- Problem solver
- Decision maker

Tools that can be used to record

- Digital Pedagogical Tools
- Shared Document Tools
- Concept Mapping and Mind Mapping Tools
- Comprehensive Activity Tools
- Digital Content Development Tools
- Learner Centric MOOC Pedagogy
- 4Quadrant Instructional Design
  - Dialogues
  - Learning by doing
  - Learning by extension Trajectories
  - Learning experience Interaction

Best practices checklist.



#### **Day-4(Forenoon) (30-06-2022)**

The speaker of fourth day session was Prof.K.BabuRao, Director Navayuga pvt Ltd.

NBA Criteria 4 and 5 were discussed in detail. The calculations involved in each and every sub criteria were discussed in detail. The takeaway for all his sessions were the points expected by the NBA committee during the visit. For a tier-I institution the number of 'Y's needed (7) out of which criteria 4 is one, where we should get a 'Y'. This is with students' involvement in professional activities.

Criteria 5 which is 'Faculty Information and Contributions" which is a major contribution for scoring the points (100). As part of this criteria the faculty participation in various professional activities like publications, Academic Research and participation in FDPs and STTPs, Sponsored Research were highlighted.

Criteria 9 which is Student Support System was discussed during the latter part of the session. The focus should be on Mentoring system and its implementation. 'How can we encourage students towards **Self Learning**'. The level of career guidance, Training and Placements are the key points to be focussed in this criteria. Along with these, the co-curricular activities, and Entrepreneurship cell are also to be taken care of.

#### **Day-4(Afternoon)**

The afternoon session started with Prof. K.BabuRao guiding the participants to write the Cos. The other speaker of the session was Prof.R.B.V.Subramanyam, NIT Warangal.

The discussion was about how to frame Cos, their properties. The main properties being

- (i) A CO should start with an action verb.
- (ii) A CO should be Measurable, Maintainable, and Attainable.
- (iii) It should be correlated to one or more POs.

The following points were discussed with respect to a course (subject):

- How to prepare Articulation Matrix for a course.
- How to calculate CO Attainment for a course.
- How to assess a CO Attainment.

All the participants were divided into teams and were asked to write COs for a particular subject, which were evaluated by Prof.K.BabuRao, and were modified according to their suggestions.

The speakers patiently cleared the doubts of the participants by considering examples.



### **Day-5(Forenoon) (01-07-2022)**

The fifth day started with a session by Prof.D.V.S.S.SivaSarma, prof (HAG), Dept of EEE, Head Centre for Training & Learning, NIT Warangal.

The speaker was very motivational and interactive. The objective of the whole session was the role of teacher in the current day scenario to motivate the students in learning. Various methods to motivate the students to reach their goal. Some of the key points of the session were:

Objectives in Learning:

- Changing in beliefs, thinking and doing. This can be done at different levels
- Cognitive level
- Psychomotor level
- Affective level

The speaker also quoted:

“The illiterate of 21<sup>st</sup> century will not be those who cannot read and write, but those who cannot learn, unlearn and relearn.” By Alvin Toffler.

The changes in Teaching Methodologies, how things changed from Teacher Centric to Learner Centric. Teaching – Learning cycle which says a teacher is a life-long learner. Based on the industry requirement the curriculum should get updated and the teacher should get updated accordingly.

In this process of teaching, pedagogy plays an important role to make a student learn. Also, the digital skills are very much essential for a teacher in Teaching Learning Process. Teacher is only a facilitator; the learning must be done by the learner. The speaker also enlightened the participants with some of the digital tools.



## Day-5(Afternoon)

During the afternoon session Prof.D.V.S.S.SivaSarma, focused on some of the digital tools that can be used by a teacher for an effective teaching. The current scenario of teaching and learning is in asynchronous mode. The Learning Management System ie Moodle was focused.

EPICS – A case study of Enhanced Learning in Indian Engineering Institutions. The key points of why EPICS should be part of curriculum:

- Multidimensional skills
- Understanding the needs of society
- Designing prototyping
- Demonstrate KCASE skills
- Giving back to society
- Development of right kind of thought process for industry
- Application of interdisciplinary knowledge

After the Engineering programme how is a student useful to the society was the main point discussed in this context.

Some of the projects by EPICS in IEEE were highlighted. Also, how these projects are funded was discussed.

The feedback given by the speaker was that the sessions were very communicative, interactive and knowledgeable.



## Day-6(Forenoon)(02-07-2022)

The forenoon session started with Prof. DVLN Somayajulu, Director IIITDM Kurnool.

The main agenda of the session was Preparation of Effective Question Papers. What should be the rubrics for setting a quality question paper, how can it satisfy the various levels of Bloom's taxonomy was discussed. How these levels be mapped to the Cos. How the questions be mapped to Cos.

He discussed the best practices in assessment. The approach should be from setting a standard question paper for a particular course and then back tracking to designing the course. As part of this discussion, he also mentioned when the question paper is prepared the faculty should attempt it first. For an open book exam, assessment guidelines are to be prepared carefully and properly.

As a demonstration to understand the CO writing the 'Pedagogy Research Report' by IITKharagpur was shown, in which anyone can register and give or get the COs for any course. In a way, it's a kind of training for the faculty to prepare COs for any course.

[http://www.ide.iitkgp.ac.in/Pedagogy1/pedagogy\\_main.jsp](http://www.ide.iitkgp.ac.in/Pedagogy1/pedagogy_main.jsp).



### Day-6(Afternoon)

The afternoon session was continued by Prof DVLN Somayajulu, in which he demonstrated how to work with GIFT Format of Moodle. The focus was mainly on NEP (National Education Policy). The key points were:

- Bringing change
- New Learning Culture
- Benefits
- Types of Institutions
- Graded Accreditation
- Online Programmes
- Formation of Clusters
- Affiliated Colleges
- Academic Bank of Credits (ABC)

While discussing about these points, how can they be implemented in our current educational scenario, what could be the possibilities were of concern. The implementation issues are many, which are to be properly handled.

The session with Prof. K. Babu Rao explaining the motto of our college: “Tejaswinah vadheeta masthu” which means “Let the Learning enlighten us”, was very motivating for all participants.



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