A Report on

A One Day Induction Training Programme (ITP)
For Fresh Engineering Teachers, Round III

On
Active, Interactive & Effective Teaching

Date & Time: 01st November, 2015 (Sunday) at 10.30 AM

Venue: GTU Chandkheda, Ahmedabad (A2 Hall).
Center for Technology Education, Public Policy and Universities of the 21st Century of Gujarat Technological University (GTU) organized one day Induction training program on 1st November, 2015. To improve the quality of education through teaching, research and leadership by creating leading-edge tools, managing data or developing high quality professional development various techniques like Group Buzz, Picture Prompt, Point the Pointer, Sketch & Say, Chart & Models, Storytelling, Think break etc. were used.

Under the leadership of Dr. Akshai Aggarwal, Vice-Chancellor, GTU, the Centre is organizing a series of Induction Training Program to train teachers so that they can create active involvement of students in classroom and can improve overall classroom efficiency. This is the 3rd Induction training program organized by the Centre for newly recruited Fresh Teachers of the GTU affiliated Institutes. Around 83 Participants have been registered for this 3rd round of the Induction Training Program. Around 200 faculties/teachers have already participated and benefited in the previous two round of this FDP and they learned a lot from this training program.

**ITP-III Participants interacting with Chief Resource Person Dr. Dilip Ahir**

This program will help the faculties to learn about managing behavior in his or her classroom. This set of pedagogical skills involves establishing clear rules and expectations, because students who do not know what is expected of them are more likely to misbehave. Interactive classroom will never have such behavioral problems as
all students are involved in the process. To strengthen learning about all these issues many interactive activities are also included under this Programme.

The other major area of pedagogical skills is that of teaching content effectively. The teacher should have good command on content and should be able to present according to the level of the students. A good teacher will present information in ways that actively engage the students in the content part that they are learning. Good pedagogy involves not only imparting information, but also providing opportunities to apply that information.

Apart from these preparing balanced question paper and effective evaluation is also incorporated under this one day induction training Programme. It is a perfect packet of teaching attributes, GTU is offering to fresh teachers. The purpose is to address such a mass of the teachers who have never and ever undergone any kind of pedagogical training after being assigned role as a teacher.

Any good teacher knows that a class full of out-of-control students is not going to learn much. A teacher's first major focus is to learn about managing behavior in his or her classroom. This set of pedagogical skills involves establishing clear rules and expectations, because students who do not know what is expected of them are more likely to misbehave. Interactive classroom will never have such behavioral problems as all students are involved in the process. A skilled teacher is able to handle behavioral problems with a minimum amount of disruption to the learning environment. To strengthen learning about all these issues many interactive activities are included under this Programme.

The purpose of this program is to orient the mass of fresh teachers at GTU affiliated colleges towards effective teaching for creating active involvement of students in classroom in order to improve overall classroom efficiency and in turn enhancing the quality of education.

Under this series of One day induction training program already two rounds have been completed in which the fresh teachers of GTU affiliated colleges took part. During this ITP round-III, total 83 teachers have participated.

All college Directors/Principals are requested to motivate young and fresh teachers of their college to participate in this one day induction Training Programme. It has been decided to organize this Programme during weekend days (Sat/Sun) only, for maximum participation without any disturbance to daily academic work. GTU is looking forward for your support as the purpose of university behind this ITP is to train fresh teachers for joining them effectively in process of having quality academic activities at all technical institutions across Gujarat. Very soon GTU is going to open online registrations for ITP-IV.
## Programme Outline

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### Module -I , Understanding Human Behavior

As teachers have to deal with the humans it is the first step to understand students as human and secondly what kind of the personality teacher should possess? The human behavior can be divided in three domains as under:

1. Cognitive Domain (Knowledge)
2. Psychomotor Domain (Skills)
3. Affective domain (Behavioural)

Some of the activities which can be described to understand these domains are:

- **Cognitive**: Read, Evaluate, Decide, Think
- **Psychomotor**: Drive, swim, perform, etc.
- **Affective**: Feel, Love, care
The third domain of behavior that is affective domain is very much important to be an effective teacher in addition to knowledge and skills. It decides the type of personality one has. There are three basic types of personalities.

1. Assertive Personality
2. Aggressive Personality and
3. Non-Assertive (Passive) Personality

Teachers are given exercise to assess their personality. By an honest evaluation they can come to know what exactly they are and what is to be done now to be an Assertive person.

Some characteristics of various types of personalities are as under

**Assertive**
- Such people say what they think without any fear
- They respect himself and others
- They give and receive complements gracefully
- They are sharp in thoughts, fearless, full of confidence

**Non Assertive**
- Such people are Full of fear
- They have inferiority complex and hence lagging in confidence
- They are reluctant to ask or take opinion
- They have lack of knowledge
- Poor communication skills downgrades their confidence

**Aggressive**
- Such people are abusive and poor listener
- They Demand rather than ask
- For them to win is the only life and they can’t digest defeat
- They always have “Me first” kind of approach
The Teaching Attributes:

- Pedagogical competencies
- Knowledge of key concepts.
- Knowledge of governing curriculum.
- The teaching of relevant and engaging content.
- Knowledge of available resources and Technologies.
- Awareness of different learning styles.
- Awareness of different pedagogical strategies.
- Encouragement of self-directed learning.
- Flexible and diverse teaching practice.
- Building student security and confidence.
- Challenge student abilities.
- Clear communication of tasks, goals and expectations.
- Application of effective classroom management strategies.
- Awareness on ICT tools
- Personal attributes
- Patience
- Caring and being concerned for students
- Intellectual Curiosity
- Enthusiasm
- Mentorship
- Dedication to Excellence
- Passion for life
- Modelling student respect
- Empathic understanding
- Nurturing
- Passionate about learning
- Personally committed to teaching as a vocation
- Fair and non-authoritarian
- Sense of humour
- Effective interpersonal skills
- Effective communication skills
- Self-insight and self-control
- Perfect Gesture good Posture
- Self-Motivated and Enjoying to be among students
• Contributive in nature

Creating excitements in classrooms:
• Tell objective and state application
• Don’t be monotonous
• Don’t go continuously more than 15 min without break
• Ask Questions, take opinion
• Use brainstorming
• Use media and show animations
• Share experiences
• Make use of humor
• Move around the class among students
• Use voice modulation
• Plan lecture
• Have confident posture
• Don’t forget to have enough loudness in voice and if not use microphone.
• Give importance to students, calling them by name with respect
• Break monotony as and when needed

Teachers are given an exercise to evaluate their type of personality. This module is full of real life examples and interesting conversations between trainer and participant to understand student psychology.

Module -II Communication Skill

Communication skill is a key tool to connect with the students. A good command on this skill creates acceptance of teacher in mind of the students. It helps students in enabling concentration. Audible sound, humorous presentation, voice modulation, use of pictures, graphics, animations, films, presentation slides, models, charts enhances understanding of students which in turn helps students in enabling concentration with more ease. As understanding increases, ease of concentration increases which in turn helps in having more understanding. Thus concentration helps in understanding and understanding helps in creating ease of concentration. This cyclic process of understanding & concentration, concentration & Understanding continuously be in action to create element of liking towards subject. Ultimately this liking is transformed
into an extreme level of understanding. Thus teacher’s Posture, Gestures and orientation plays a vital role in making session with students very much interesting. There are very high chances of having distortion of message due to poor communication. To explain this Trainer Arti Rathod has conducted one activity having participation of 5 teachers. She instructed one of the 5 teachers to be in auditorium and instructing rest 4 to be outside the auditorium. She told 8-sentence story to first teacher. Then he is instructed to convey same to the second teacher called from the group standing outside and not aware about all activities inside auditorium. The story conveyed to second teacher by first one is observed little bit distorted. These observations are noted by participants seated in auditorium. They found it very funny. Thereafter this second teacher is instructed to tell this story to third teacher invited from the group standing outside. The story is twisted more by having inclusion of some additional events, characters as well as places. Same process is repeated from third to fourth teacher and fourth to fifth. At last all participants have realized that only at the fifth stage of the transfer of story it is fully lost its original message, theme and concept. This activity has proved how important it is to be very precise at communication when it is only a verbal communication having no other support. To have more clarity of thought teacher presents, teacher should have an effective use of body language and in addition to that he should use pictures, graphs, demos, films, animations, charts, slides and models etc. For effective communication how you look also matters as it creates faith among students about you, it creates your acceptance in their mind as a teacher. She said it is very important for armature teachers to follow the dress code suitable for teacher. She also explained about proxemics and haptic in effective communication.

Module -III Organizing and planning lecture

Lecture planning is to be done for each and every lecture separately. It helps teacher in keeping him/her ready at the time of delivery with all aids required.

Step 1 : State Aim of the lecture in easy words in short
Step 2 : Prepare introduction on the topic which should include history, use, application etc. for the topic.
Step 3 : Prepare content part including figures, graphs, diagrams, models, illustrations, discussions, question-answer as well as demonstrations.
Step 4 : Conclude lecture with the hint what you are going to cater in next lecture.
Time available to deliver Lecture

- What is the total time available?
- How much of it will be consumed in formalities?
- How much time will be left for questions and dimensions?
(Aim) Purpose of the talk

- What is the result you wish to achieve?
- What do you want your audience to do or understand better as a result of your talk?

Who The Audience is? (Diploma/Undergraduate/or PG students?)

- Who are they?
- What will be their attitudes toward you and the lecture?
- What are the characteristics of the audience?
- How quickly do they grasp your content?
- What does your audience know about the subject?

Subject matter

- Relevant to the needs and interests of the audience.
- How much content is to be covered within the available time?
- Identify ideas for discussions, quiz, examples, analogy, exercises, etc.
- Select/prepare appropriate audio visual aids like PPT/animations/films/music etc.

Recognizing an effective lecture?

Effective lectures hold student’s attention and stimulate them to think about the subject. But sometimes, even a good lecture can turn into a boring “turn-off”. The following list will help to identify the characteristics of a good lecture.

1. The presentation is hindered by demonstrations, buzz groups, questions, audiovisual materials, etc.

2. Participation of audience is sought at the outset by posing problems, stating a case to be analyzed, asking a thought-provoking questions, presenting a controversial issue, etc.

3. Attention of the student is maintained by changes in voice modulation, the pace of the presentation, and the use of attention “grabbers”, such as relevant quotations and interesting generalizations.

4. The teacher maintains eye contact with students.

5. Concepts and ideas are presented in a known context and in order, so that students learn pre-requisite elementary concepts before more advanced concepts are presented.

6. Appropriate relevant examples are included.
7. The lecturer provides the students with an “advance” organizer.
8. The lecturer delivers the presentation. S/he does not read it.
9. The lecturer avoids stereotype and distracting behaviors, such as tie twisting, excessive pacing, and hose hitching.
10. The lecturer summarizes his/her major points.
11. The portion of the lecture devoted to one-way communication is limited to 15 minutes.

Making use of ICT for in the class and off the class learning support:

Information and communication technology is boon to the teachers. As an impact of ICT the role of teacher is totally now changing and it is more becoming as facilitator. Teacher can help the students by using ICT not only on the classroom but off the classroom too. The video lecture, power point presentation, animated films, class –notes, assignments etc. can be easily made available at the doorstep of the students by use of ICT. It is also helping teacher in effective evaluation and day to day teaching learning processes. Each and every teacher must have awareness of ICT methods and its application in making their classrooms more effective. Virtual classrooms are also a great possibility in covering huge mass of students.

Advantages of ICT in Active, interactive and effective Teaching:

- It Enables students to learn anywhere and anytime.
- Interactive tools of ICT is helping in effective teaching
- Virtual teaching-learning is possible to the huge mass of students online.
- Provides dedicated teaching through individual communication (student-lecturer)
- Less human resources required for creating larger impact of teaching
- Cutting down the cost as compared to traditional education.
- Provides educational activities in geographic areas larger.
- Effective evaluation can be done by use of ICT
- Encourages individual studying of students by extension of self-learning support
Prototype Lesson Plan: (To be prepared for each Lecture)

Planning is to be done for each and every lecture separately.

Lecture: 1

Title: ____________________________

Topic: ____________________________

Aim: ______________________________

Application: _______________________

Sub Topic _________________________ Time: ________________

Content
Text Text Text Text Text Text
Text Text Text Text Text Text
Text Text Text Text Text Text

Media to be Used
- Board
- PPT
- Video
- Film
- Model
- OHP

Figures, Graphs, Charts, Block Diagrams etc.

Monotony Breakers
- Story
- Punch Line
- Sharing Experience
- Brainstorming

Questions/Small Exercises
- Ask
- Pick up right one
- Opinion
- Draw
- Derive

Summarize: ________________________

References (e-Learning Support) ____________________________

Assignment (Home Work) _________________________________
How to be interactive?

**Sketch & Say:**
Whenever you say anything sketch it on board symbolically and say. It has extra impact in the mind of students. When they see something it involves them, visual channel is always more receptive than listening channel.

**Picture Prompt:**
Show images to the students and ask them to identify and say to explain about image.

**Show Charts, Models:**

![Diagram](Image)

Use **Animations, Video films - Pause, ask and discuss**: ICT Tools like Animations and video films can be a great help to teachers. It can be used for off the class learning too.

**Pont the pointer:**
Display large size image having many pictures inside on different themes and topics. Ask To Identify by laser pointer. Let the student stand up and let him point to correct image you asked.

**Story Telling:**
Say story to all and ask what is the morale of story.
Choral Response type questions:
This can be used to involve students in mass. Ask like yes or no? yes or no? loudly yes or no? and observe the response in chorus. It is used to convince and involve. For example we can have questions as under for quaral response.

Do you like to have class note on this topic? Have you had your lunch? All of you are comfortable on seat? tea break now?? Are you with me? Getting? (Yes or no?)

Group Buzz:
It is used for Intense discussion in small Group. All participants are divided in small groups. Very precise and specific topic is given to all. They are asked to discuss. It is used for involving group in greater depth of the topic. It is used to derive extract of learning or to design solution after learning as well as for deriving conclusions, taking decisions/opinions, Recalling/reviewing etc.

Think Break:
Ask a rhetorical question, and then allow 20 seconds for students to think about the problem before you go on to explain. This technique encourages students to take part in the problem-solving process.

Ask Simple Questions:
Ask very simple question at any point of time during lecture. Our purpose here is less to know about their learning but more about making them participative in the process. So every teacher should exercise this practice frequently during a lecture.

Brain Storming:
Write one theme on black board. For example “How can make our premises clean?” Let everyone respond one by one and you as a teacher go on writing the opinion on black board with the name of the respondent. Go on discussing at the same time.

Warm Up activities at Beginning and middle of Lecture:
Body Energizer: Speak any alphabet and ask all to move their head to make that alphabet. O, I, P are simplest one. Start with easy and go to little bit energy consuming movement of heads in mass.

Be nice (energiser, team building): Make pairs of students seating adjacent and ask them to observe one another and give anyone complement to other partner of pair. All will enjoy and get relaxed. It also creates positivity in mind and give opportunity to know each other. This can be done at start of the lecture.
Points to keep in mind while Preparing PPT:

For Maximum Visibility/Readability and perception keep following factors in mind...

1. Font size minimum:
   - Titles - 32 point
   - Text in bulleted lists - 20 point
   - San serif font best - Consistent

2. Use of Colors
   - High contrast
   - Dark background with light letters
   - Light background with dark letters OK

Use appropriate composition:
1. One major concept per slide
2. Keep slides simple, balanced
3. Keep a border

Use of Text:
1. Outline of talk - not every word
2. Put talk in speaker notes
3. 6 lines per slide - 6 words to line
4. Quotations are OK
5. No full sentences
6. Delete articles (the, a, an)
7. Illustrate concepts

Use of Images:
1. Use one image per slide
2. Two to contrast, but make them big
3. Draw arrows - animate
4. Do not enlarge small images
5. Do not distort the image
6. Credit the source, author, book/article/website, date, URL

Use of Animation:
1. Should enhance, not distract
Module-IV Evaluation Methods & Formulating an effective Question Paper

It has started with explanation of difference between evaluation and Assessment. Types of assessments are discussed with examples. Questions are having of various types like multiple choice, very short-answer type, short-answer type and long answer type. Each of this type of question is capable of judging some specific learning attribute. Thus each type is explained with its justification and suitability to measure specific attribute with Bloom’s Taxonomy and weightage accordingly for measuring actual learning at various levels as Knowledge, Understanding, application, design, analysis, Synthesis & Evaluation.

Very short answer Questions:

Justifications:
1) Less structured answer than MCQ
2) Used in exam for primarily awarding few marks as starter to students for motivation
3) Although they have the potential for measuring analysis, application of knowledge, problem-solving and evaluative skills, more often than not their construction means they only test the lower cognitive levels.
4) Precise evaluation when many assessors are there.
5) Boost up the confidence of student
6) It is best in testing the actual knowledge of laws, definitions, identification, comparison, classification, listing, quoting example etc.
7) Easy to prepare questions
8) Questions are not much organized
9) They are frequently used in examinations to award a few marks as a 'starter'
10) Although they have the potential for measuring analysis, application of knowledge, problem-solving and evaluative skills, more often than not their construction means they only test the lower cognitive levels.
Some short-answer exam questions will test your memory (factual questions), while others will test your ability to apply learnt concepts (interpretive questions).

**Factual very short-answer questions**

The function of factual questions is to describe or define the way things are. Factual questions do not require an explanation, but it is often an advantage to give one because it shows the examiner that you have a good understanding of the subject matter. Factual questions often use the following instruction words:

*Define, Give, Identify, List, Name, Outline, Provide, State etc.*

**Interpretive very short-answer questions**

Interpretive questions test your ability to apply your knowledge. Summarise questions in your own words to see whether you understand what is being asked. If a short-answer question requires several sentences, planning is essential. Interpretive questions often use the following instruction words:

*Account for, Comment on, Compare, Consider, Contrast, Describe, Discuss, Distinguish, Elaborate on, Explain, Give reasons for, How is different, Illustrate, Support your answer, What do you understand by?*

**Short Answer Questions:**

It is an effective measure of a student’s ability to accurately recall specific, target information.

**Justifications:**

1) Suitable for comprehension level
2) Draw, convert, restate kind of questions
3) Possibility of Consistently equal judgment in assessment
4) Easy to design kind of questions
5) Useful in covering the content from each of the Unit
6) Suitable for solving numerical kind of questions
7) Reduced possibility of guessing
8) Can have a lengthy stem such as a paragraph.

*Draw, Define, illustrate, Calculate, Classify, Convert, Distinguish, Identify, Solve, Summarize, Find errors, Predict*

**Long answer Questions (Essay Type)**

Essay questions are generally most suitable for the following purposes:

- To assess students’ understanding of subject-matter content
- To assess students’ abilities to reason with their knowledge of a subject

**Justifications:**

1) Liberty for individual expression
2) It can show depth of learning
3) It helps in testing written communication and presentation skills too.
4) Examine students ability to form coherent arguments
5) It can show breadth of student knowledge and understanding
6) Relatively easy to write questions
7) Can stimulate thinking in students mind
8) Well suited for analysis and design kind of ability testing
9) Encourage students for in depth learning
10) They can measure understanding, synthesis and evaluation
11) May contain more than one questions
12) Test recalling memory
13) Lack of consistency in judgment of correctness

Verbs for Essay type questions:

Compose, Design, Analyze, Propose, Infer, recall, Compare, Explain, Evaluate, Justify, Derive, develop, Trace, Generate, Implement etc.

The Module ended up with six step procedure to keep in mind while designing balanced and error free question paper according to the curriculum of University.
ITP- I (Completed on Date: 08-08-2015)

ITP-I has been successfully completed on 8th August 2015 having registration of 166 fresh teachers out of that 120 have participated.

Report Link: [http://files.gtu.ac.in/circulars/15SEP/09092015_03.pdf](http://files.gtu.ac.in/circulars/15SEP/09092015_03.pdf)

ITP- II (Completed on Date: 26-9-2015)

Looking to huge interest shown by young teachers ITP-II of same training has been conducted on 26th September 2015. Total 265 teachers have shown interest to participate. As it was rescheduled and organized on Saturday, 80 participants took advantage of this training by remaining present at GTU.


**Appeal to All**

*Motivate young and fresh teachers of your college to participate in this one day induction training programme. It has been decided to organize this programme during weekend days (Sat/Sun) only, for maximum participation without any disturbance to daily academic work. I am looking forward for your support as the purpose of university behind this ITP is to train fresh teachers for joining them effectively in process of having quality academic activities at all technical institutions across Gujarat.*

Dr. D.H. Ahir
Associate Dean
Gujarat technological University