

## Report of the FDP *How Teachers Can Make a Difference*

Conducted by the TLC, IIT-M

in collaboration with Teresian TLC, St. Teresa's College (Autonomous), Ernakulam

*How Teachers Can Make a Difference*, was an interactive and activity oriented 5-day online program (23.11.2021 – 27.11.2021), designed to instruct teachers on the methods of blended learning, innovative methods of online and in-person teaching, feedback and evaluation. Sessions were held on the steps for preparation for a course, question paper setting, using feedback and evaluation of teacher effectiveness, implementing group activities on an online platform, creating instructional videos for science labs, and gamification. Forty teachers from various colleges under the Paramarsh Scheme of St. Teresa's College participated in this Train-the-Trainer program, and who would further train the remaining staff of their respective institutions.

Day I -23<sup>rd</sup> Nov 2021

Session 1:

Question setting – 1

Resource Person: Prof. Shreepad Karmalkar

The screenshot shows a Google Meet interface with a presentation slide. The slide title is "Evidence of Teacher Effectiveness: Teacher Portfolio". The content on the slide is as follows:

- 1) Class composition
- 2) Assignment and examination questions.
- 3) Performance on the above questions.
- 4) Policy regarding attendance, grading etc.
- 5) Teacher rating and course rating by students
- 6) Teacher rating by experts
- 7) Performance of students in the follow-on course
- 8) Performance of students in real life

The meeting participants visible in the grid include Dr. Karmalkar S, Raj S Pillai, preethy sreevats..., IQAC ETC, Dr. Nisha Vikraman, Susan Mathew Pan..., and Anil Thomas Thorton. The system clock shows 10:05 AM on 23/11/2021.

The screenshot shows a Google Meet interface with a presentation slide. The slide title is "Marks distribution of a good problem set". The content on the slide is as follows:

| Levels            | Assign | Exam | Overall |
|-------------------|--------|------|---------|
| Memory            | 5      | 40   | 20      |
| Application       | 20     | 30   | 18 + 40 |
| Critical thinking | 20     | 5    | 4 + 4   |
| Creativity        | 5      | 0    | 1       |

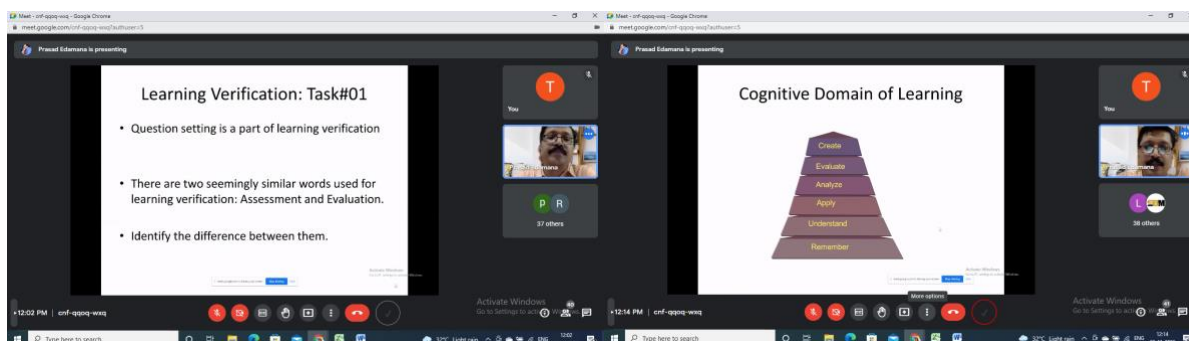
| Levels            | 2 + 1 30 | 5 0 | Overall  |
|-------------------|----------|-----|----------|
| Memory            | 2 + 1 30 | 5 0 | 20 20    |
| Application       | 2 + 1 30 | 5 0 | 2 + 1 30 |
| Application       | 2 + 1 30 | 5 0 | 2 + 1 30 |
| Critical thinking | 5 0      | 5 0 | 5 0      |

The meeting participants visible in the grid include Dr. Karmalkar S, Anju George, Maryam Thomas, Dr. Nisha Vikraman, Harsha Kishor, and Anuja Jacob. The system clock shows 10:06 AM on 23/11/2021.

Session 2:

Question setting – 2

Resource Person: Prof. Edamana Prasad



Day 1: Report

The sessions on the first day of the FDP on “How Teachers can Make a Difference” conducted by the Teaching Learning Centre, IIT Madras and organised by the Teaching learning centre, St.Teresa’s College, Ernakulam, commenced at 10 am in the morning. The Resource persons for the sessions were Prof. Shreepad Karmalkar and Prof. Edamana Prasad. Dr. Shreepad Karmalkar is a professor at the Electrical Engineering Department, IITM and also the head of the Teaching Learning Centre at IIT Madras. Dr. Edamana Prasad is a professor at the Department of Chemistry, IITM. He is the former head of the Teaching Learning Centre at IIT Madras and is now a core team member of the centre.

The first session of the day was on “Question Setting”.

Dr. Karmalkar started off discussing the “evidence of teacher effectiveness” and then elaborated on the connection between education and problem/question setting. In this interactive session, the different levels of thinking were discussed with emphasis on “critical thinking” (Analyze+ Evaluate). He also dealt with how marks distribution of a good question paper is done.

The second session was also on “Question Setting”, with special focus on learning outcomes and question paper setting. In this task based interactive session, Dr. Prasad underlined the need to have well-defined learning outcomes based on ‘different cognitive levels of learning’ for effective question paper setting.

## Report of Day 2:

### Session 1:

The forenoon session of the second day of the FDP “*How Teachers Can Make a Difference*” began at 10.AM. Professor Karmalkar mentioned various aspects of feedback for quality learning and explained how to seek feedback and how to give feedback to students. He explained the importance of descriptive feedback and need of mid-term/end term feedback and rating. He stated that a descriptive feedback is important because it gives scope for improvement for a teacher. Professor Karmalkar demonstrated how teachers can give feedback to students by inviting participant groups to formulate questions for courses they were handling and to correlate it with the levels of learning they intended. He took up the questions shared by the participant groups and suggested improvements where necessary. He mentioned the pedagogy which would clarify many confusions regarding the formulation of questions from a student’s point of view.

**Critical level**

The following table is a diabetic patients menu. What adjustments can be made without avoiding the major ingredients to bring a calorie deficit diet?

| Time    | Menu            | Servings  | Ingredients | Amount |
|---------|-----------------|-----------|-------------|--------|
| 6:30    |                 |           | Milk        | 75 ml  |
|         | Biscuits        | 2 nos     | Arrowroot   | 30 gm  |
| 8:30 am | Dosa            | 4 nos     | Rice        | 70 gm  |
|         |                 |           | Black gram  | 30gm   |
|         | Coconut chutney | 1 katorie | Coconut     | 50 gm  |
|         |                 |           | Onion       | 20mg   |
|         | Sambar          | 1 katorie | Dhal        | 10     |
|         |                 |           | Carrot      | 25     |
|         |                 |           | Potato      | 25     |
|         |                 |           | Plantain    | 25     |
|         | Tea             | 1 cup     | Milk        | 75 ml  |
| 10:30   | Orange juice    | 1 glass   | Orange      | 150 ml |
| 01:30   | Rice            | 1 katorie | Rice        | 30gm   |
|         | Chapati         | 2 nos     | Wheat flour | 50 gm  |
|         | Fish fry        | 2 nos     | Fish        | 70 gm  |
|         | Dhal fry        | 1 katorie | Dhal        | 60 gms |

Participants: Dr. Karmalkar S, Bhavya E. P., Anupa Jacob, Ari Thomas Tho..., Jini Justin Coosta, Jisha John, Elizabeth Kuravi..., 32 others, You.

**Questions testing - levels of thinking**

- State the Fourier's law of Heat Conduction (Memory)
- Using Fourier's law find the heat transfer rate of plane brick wall of  $4m \times 7m$  with thickness  $220mm$  and with inner and outer temperature  $60^\circ C$  and  $35^\circ C$  ( $K=0.51 W/m^\circ C$ ) (Application)
- Calculate heat transfer rate per  $m^2$  of plane brick wall with thickness  $220mm$  and with inner and outer temperature  $60^\circ C$  and  $35^\circ C$  (Critical thinking)

Participants: Dr. Karmalkar S, Bhavya E. P., Jini Justin Coosta, Anupa Jacob, Arju George, preethy areeni..., jjo ananyakj, 31 others, You.

Dr. Karmalkar S is presenting

### Marks distribution of a good problem set

| Levels            | Assignm. (100) | Exam. (100) | Overall 0.2A+0.8E |
|-------------------|----------------|-------------|-------------------|
| Memory            | 0              | 45          | 36                |
| Application       | 75             | 50          | 15 + 40           |
| Critical thinking | 20             | 5           | 4 + 4             |
| Creativity        | 5              | 0           | 1                 |

| Levels            | 2 x 1 hr Quizzes | 3 hr End-sem | Overall (100) |
|-------------------|------------------|--------------|---------------|
| Memory            | 2 x 9            | 3 x 9        | 45            |
| Application       | 2 x 10           | 3 x 10       | 50            |
| Critical thinking | 0                | 5            | 5             |

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11:36 AM | cnf-qqoq-wxq

## Report of Day 3

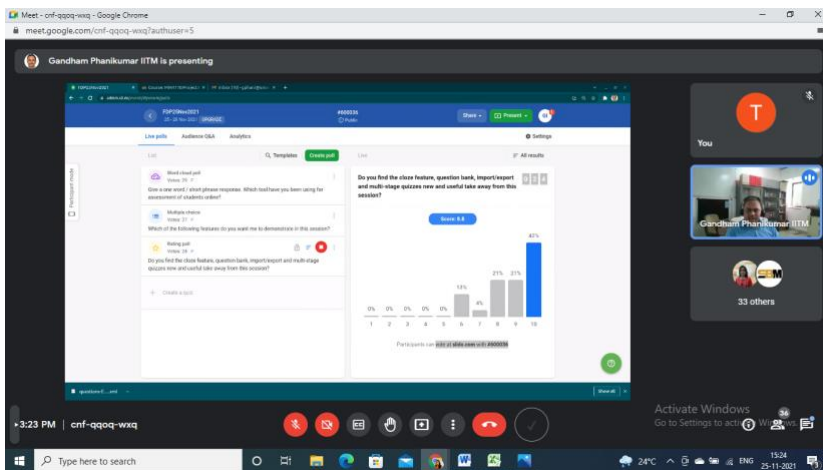
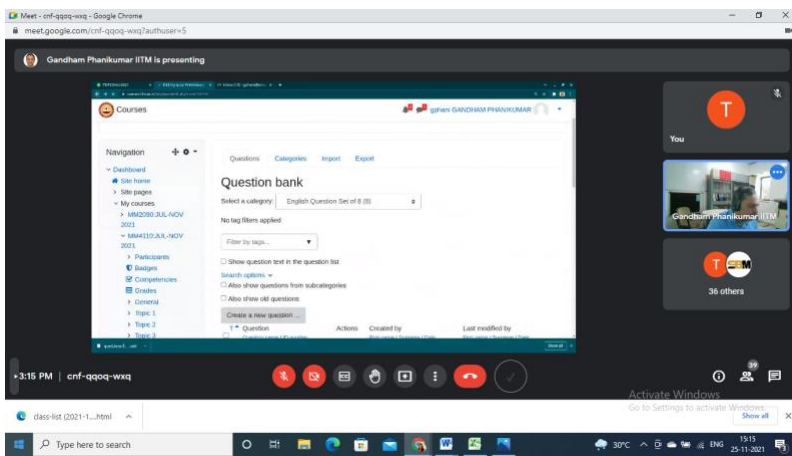
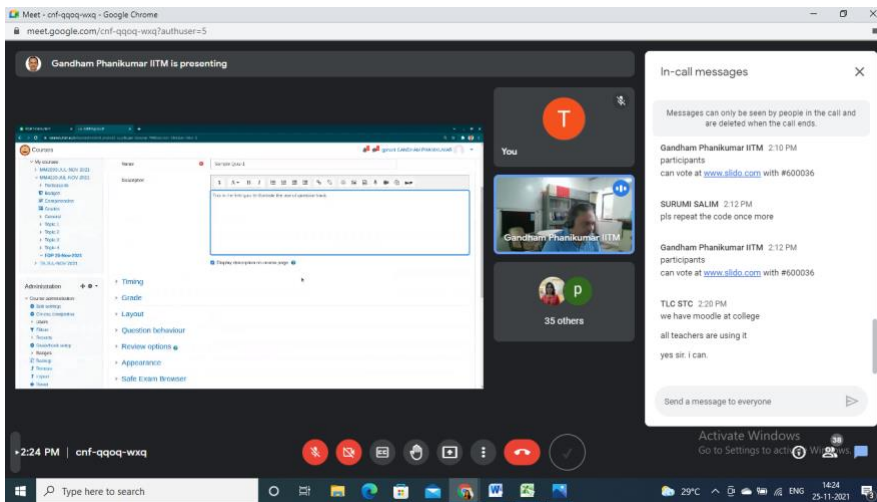
### Session 1:

The first session on “Moodle based un-proctored examinations” commenced at 10 am on Thursday 25<sup>th</sup> Nov 2021. The resource person for the session, Prof. V. Janakiraman from the Electrical Engineering Department (IITM), addressed how to set a Moodle based un-proctored examination. Dr. Janakiraman discussed how a multilevel quiz can be set in an effective way to reduce malpractices in an online examination. The session was a live demonstration on how to create different categories and levels of questions for the quiz in Moodle.

### Session 2

The afternoon session was handled by G. Phanikumar, Professor, Dept of Metallurgical and Materials Engineering, Indian Institute of Technology Madras. The session on “Formative self-assessment using Moodle” introduced and discussed the merits and demerits of Google Jam Board and Slido.com. The session included a detailed demonstration of how to effectively use ‘Clozed Question’ in Moodle Quiz.

Photos of Session 2: Formative self-assessment using Moodle.

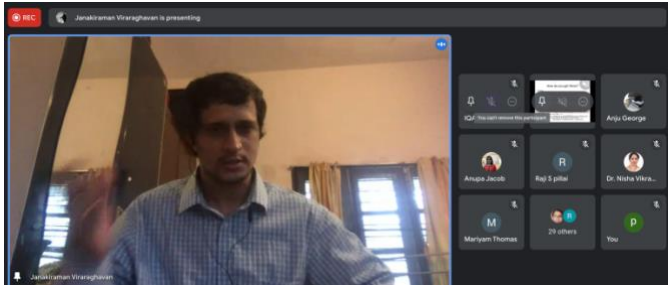


Day 4:

Session 1:

Prof. Janaki Raman conducted the first session on how to create Do It Yourself lab instruction videos. He explained the rationale for creating the videos and the process of the recording – taking the participants through the key steps in the video making and the

necessity for taking photos and inserting images in the video. He also demonstrated a video recording as well as the key operations of video editing and dubbing.



## Session 2:

The second session of Day 4 was on Game based learning conducted by Kartic Vaidyanathan, guest faculty of IIT Madras and Founder of LetsPlayToLearn. He provided an experiential insight into game based learning by having the participants play various games and explained the neuroscience behind the efficacy of games in learning. He provided the retention rates in different stages of learning on the learning pyramid and compared the teaching and learning methodologies between the different stages of education. With this theoretical background, he made his argument on the benefits of games.

## Day 5

### Session 1:

The FN session of the FDP on Game Based Learning was led by Dr. Kartic Vaidyanathan, Guest Faculty, IIT Madras. Three different online tools that can be used in classrooms to make learning interesting was introduced. The tools discussed were Mentimeter, Quizizz and Raptivity. These are free online sites that can be used to design quizzes and collect responses from students. The responses can be analyzed so that the mentor/teacher gets a picture of the understanding level and learning outcomes achieved by the students. The special feature of these tools is that the students will feel highly engaged because of the fun element present. Hands on experience with the tools were also given.

The concluding session of the FDP was led by Dr. Devdas Menon of the Civil Engineering department, IIT Madras. Dr. Devdas Menon gave a talk on larger goals of education. He started the session with the student's and a teacher's perspective of education. When a teacher focuses on what to teach and how to teach the students, the student's need must be

updated on what to learn and how to learn. The importance of learning is in relating to our life goals. He discussed ideas of success, happiness, and choices in life.