4.PBL 2019

REPUBLIC POLYTECHNIC **Problem-Based Learning Institute**

Customised Run:

Problem-Based Learning @ KLE

Duration and Time:

4 January 2019 – 8 January 2019

5 days, 9am – 5pm (Face-to-face classroom mode)

Venue:

KLE Technological University

4.PBL 2019

Course Synopsis

The use of a problems in curriculum is to trigger inquiry and drive independent learning and deep approaches to learning. What then makes an effective problem and how can we write effective problem triggers that can engage students and motivate them to learn the desired knowledge, skills and attitude? How do we deliver and facilitate the problems effectively to engage the learners.

This course aims to answer these questions by introducing participants to key characteristics of a good problem trigger as well as providing opportunities for hands-on attempts at writing an authentic problem trigger which is rigorous and engaging while meeting the targeted primary learning objectives and demonstrating the above traits. Participants will also be introduced to the concept of scaffolding, inquiry path, closure and an overview of holistic assessment in Problem Based Learning (PBL) that will support students' learning. Participants will also be introduced to effective delivery of PBL lessons.

Course Format

The workshops will be conducted with a focus on interactive, reflective and collaborative team-based learning. Participants will work in small teams and gain hands-on experience in the development of problem trigger from their existing curriculum which they will need to bring along for this training; and problem trigger support materials. Participants will leave the course with a tangible problem trigger that can be leveraged for existing PBL curriculum or future curriculum needs.

Course Outline

Description

Day 1
Problem Based Learning
 	
Participants will experience Problem-based Learning (PBL), through an example of a lesson package.
 	
Learning outcomes:
Participants will:
    1. identify critical facilitation issues that emerged when facilitating a PBL lesson
    2. discuss effective strategies of PBL lesson facilitation
    3. identify the theoretical underpinnings in PBL

Day 2 and Day 3 **The Role of a Problem in Triggering Learning** Participants will experience the use of problems in triggering exploration and learning as well as understand the purposes behind the structure of PBL. **Learning outcomes:** Participants will:

- 2 -

1. define the concept of an ill-structured problem;
2. explain the role of a problem in triggering inquiry and deep learning; and
3. describe how the process of PBL drives collaborative and self-directed learning (SDL)

Characteristics of an Effective Problem Trigger

Participants will examine and articulate the defining qualities or characteristics of an effective and authentic problem trigger which is rigorous while meeting the targeted primary learning objectives.

Learning outcomes:
Participants will:
1. define and describe the key characteristics of an effective problem trigger; and

2. examine problem triggers that exemplify effective characteristics

Writing Effective Problem Triggers

Participants will be introduced to the process of crafting problem triggers and will gain hands-on experience in designing the context and tasks (deliverables).

Learning outcomes:
Participants will:
1. analyse and evaluate the process of crafting problem triggers; and

2. develop an effective context and tasks (deliverables)

Bridging Learning Gaps: Inquiry Path, Scaffolding and Closure

Participants will be introduced to the concept of
1. inquiry path, i.e. the driving questions ask on encountering the problem, the knowledge, skills and attitude that can be utilized to complete problem, and potential challenges faced

2. *scaffolds* i.e. targeted assistance rendered to students to help them bridge their learning gaps or to overcome challenges presented in the problem,

3. *closure* , activities and resources to help students internalise their learning

Learning outcomes:
Participants will:
1. map an inquiry path based on the project brief

2. identify possible scaffolds to support students' learning, and closure to aid student's reflection and transfer of learning

Designing the scaffolding and closure for the project
Participants will design and plan the use of specific scaffolds (problem support) to be used as students work through the problem and closure to consolidate the learning

Learning outcomes:
Participants will:
1. design specific scaffolds and closure to be used in their problem
2. plan the use of the scaffolds and closure at appropriate steps in the process

* Participants are expected to bring existing problem triggers which they have developed. If they do not have existing problem triggers, they should craft a new problem trigger for their respective domains for the purpose of this workshop

Day 4
Holistic Assessment as part of the Problem Trigger
Participants will be introduced to the concept of formative holistic assessment in a PBL lesson. With reference to their problem trigger design, participants will also design suitable formative holistic assessments to assess students.

Learning outcomes:
Participants will:
1. define and propose appropriate modes of assessment with regard to their problem trigger design

Peer Review and Trainer Critique: Enhancing the problem trigger, scaffold and closure
Participants will peer review the problem trigger, scaffold and closure to enhance the rigour and relevance to the theme. Participants will also undergo a critique session to address key issues and/or concerns arising from the problem crafting experience.

Learning outcomes:
Participants will:
1. peer review problem trigger, scaffold and closure to enhance the rigour and relevance to the theme; and
2. address key issues and/or concerns arising from the problem crafting experience

Day 5
PBL Lesson Facilitation

Participants will acquire basic competencies in facilitating and assessing students in a PBL classroom;

Learning outcomes:
Participants will:
1. Use effective strategies to facilitate learning in a PBL environment
2. Engage students in collaborative learning, reflective and SDL

- 4 -

4.PBL 2019

Target Audience
Teaching Staff from KLE Technological University

Entry Requirements
Participants have some understanding of the theoretical underpinning and processes associated with PBL

Certification
Participants will be awarded the Certificate of Attendance issued by RPI upon meeting 80% of attendance requirement and attempting all assignments.

4.PBL 2019

4.PBL 2019

KLE Technological University
Creating Value
Leveraging Knowledge
KLE TECH.

Date: 11-12-2018

List of faculty for attending PBL training workshop scheduled from 10th January to 14th January 2019

Time: 9.00 am to 5.00 pm

Venue: Architecture Seminar Hall

Note: 1. All 30 participants must bring Laptop Compulsorily (Infocell could provide only few but it is better not to depend on them).

2. Infocell shall make provision for laptop charging and good internet connection.

S.No.	Name of the Participant
1.	Dr. Prakash G. Tewari
2.	Dr. Uma Mudengudi
3.	Prof. B.B. Kotturshettar
4.	Prof. G. H. Joshi
5.	Prof. Sanjay V. Kotabagi
6.	Prof. A.B. Raju
7.	Prof. Nalini C. Iyer
8.	Prof. Meena S. Maralappanavar
9.	Prof. Arun Giriyapur
10.	Prof. Gurunath Kampli
11.	Mr. Sachin Angadi
12.	Dr. Zabin K. Bagewadi
13.	Ms. Preeti Baligar
14.	Mr. Sanjeev Kavale
15.	Mr. Kaushik M
16.	Mr. Sanjay S Eligar
17.	Prof. P.C.Nissimagoudar
18.	Ms. Shraddha B H
19.	Dr. Ramakrishna S Joshi
20.	Prakash Hegde
21.	Shankar G
22.	Dr. Narayan D.G.
23.	Ms. Padmashree Desai
24.	Ms. Aruna S. Nayak
25.	Dr. K.G. Kodancha
26.	Dr. G.U. Raju
27.	Mr. Gururaj Fattepur
28.	Mr. Rajshekhar Savadi
29.	Mr. Nagaraj Ekbote
30.	Mr. G M Hiremath

Dean Academics

4.PBL 2019

Centre for Engineering Education Research

PBL Training Workshop Participants

Date: Jan 10-14, 2019

S.No.	Name of the Participant	Day 1	Day2	Day3	Day 4	Day 5
1.	Dr. Prakash Tewari					
2.	Dr. Uma Mudenagudi					
3.	Prof. B.B. Kotturshettar					
4.	Prof. G. H. Joshi					
5.	Prof. Sanjay V. Kotabagi					
6.	Prof. A.B. Raju					
7.	Prof. Nalini C. Iyer					
8.	Prof. Meena S. Maralappanavar					
9.	Prof. Arun Giriyapur					
10.	Prof. Gurunath Kampli					
11.	Mr. Sachin Angadi					
12.	Dr. Zabin K. Bagewadi					
13.	Ms. Preeti Baligar					
14.	Mr. Sanjeev Kavale					
15.	Mr. Kaushik M					
16.	Mr. Sanjay S Eligar					
17.	Prof. P.C.Nissimagoudar					
18.	Ms. Shraddha B H					
19.	Dr. Ramakrishna S Joshi					
20.	Prakash Hegde					
21.	Shankar G					
22.	Dr. Narayan D.G.					
23.	Ms. Padmashree Desai					
24.	Ms. Aruna S. Nayak					
25.	Dr. K.G. Kodancha					
26.	Dr. G.U. Raju					
27.	Mr. Gururaj Fattepur					
28.	Mr. Rajashekhar Savadi					
29.	Mr. Nagaraj Ekbote					
30.	Mr. G M Hiremath					

4.PBL 2019

Centre for Engineering Education Research

Workshop on PBL

A 5-days PBL workshop was organised by KLE Technological University during January 10-14, 2019. The following are the objectives of this workshop

1. Introduce Problem-based Learning (PBL), through an example of a lesson package.
2. Use of problems in triggering exploration and learning as well as understand the purposes behind the structure of PBL.
3. Examine and articulate the defining qualities or characteristics of an effective and authentic problem trigger which is rigorous while meeting the targeted primary learning objectives.
4. Introduce the concept of formative holistic assessment in a PBL lesson, With reference to problem trigger design
5. Participants will acquire basic competencies in facilitating and assessing students in a PBL classroom

30 nominated Faculty members from different departments attended the workshop.

The resource persons of the workshop

Loke Han Ying	Yap Choon Seng
Centre for Educational Development	School of Engineering
Republic Polytechnic	Republic Polytechnic

4.PBL 2019

4.PBL 2019

KLE Technological University
Creating Value
Leveraging Knowledge
B. V. Bhoomaraddi Engineering & Technology College Campus, Hubballi – India

Centre for Engineering Education Research