



Using PBL Method to Enhance Learning Process



Prof Ts. Dr. Faizah Shahbo

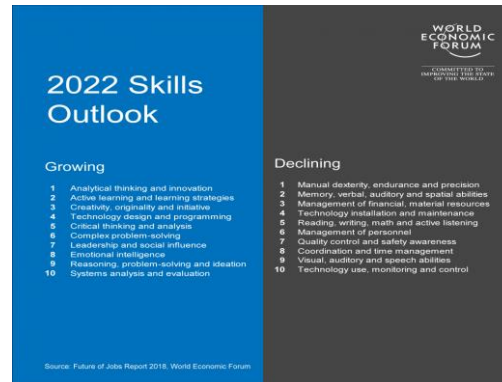
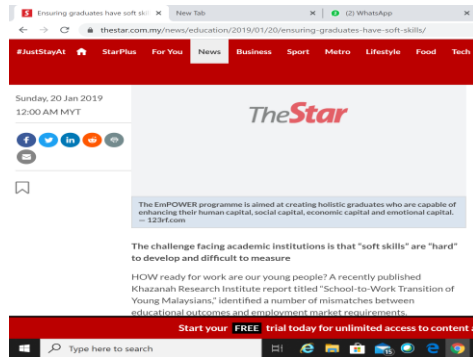


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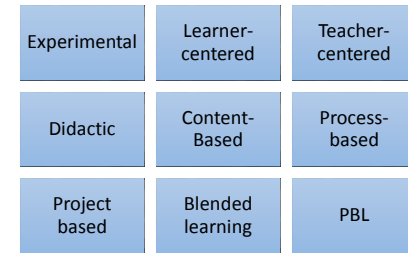
- Introduction
- 5 W + 1H of PBL
- Problem scenarios crafting
- PBL tools
- Sample work done
- Conclusion
- Q&A

Introduction

- Issues related to the achievement of students in higher learning institutions in Malaysia have always been of concerned to the society/industry/KPT
- Reports on students' **passive** attitudes, lack of **motivation**, weakness in problem **analysis** and lack of **communication** skills have prompted certain authorities to recommend PBL approach in T&L.
- UTeM (CAES) – OBE –Active Learning and SCL, PBL.
- Extension – PhD, Short grant, Masters project, PSM



Various Teaching Method





- Learning needs of students – need variety to ensure learning is not restrictive
- But also affected by.....
- professional knowledge/Content expert
 - beliefs, views and assumptions as well as professional knowledge, personal confidence and competence.
 - environment in which you work – Work from home?
 - personal qualities/passionate

Surface Approach

- Intention to complete the task, memorise information, make no distinction between ideas and existing knowledge and to treat the task as externally imposed (Fry et. al, 2009)
- Rote learning is typical surface approach
- Superficial levels of cognitive processing
- Facts are learnt **without meaningful framework**

Deep Approach

- Intention to understand and seek meaning, leading students attempt to **relate concepts** to existing understanding and to each other, to distinguish between new ideas and existing knowledge, and to critically evaluate and determine key themes and concepts
- Gain maximum meaning from learners' studying and involve high levels of cognitive processing
- Possible to achieve through student-focused approach

Adult Learning Theory (Knowles, 1984)

- There are five principles:
 - a) As a person matures, he or she becomes more self-directed- SDL/Andragogy
 - b) Adults have accumulated experiences that can be a rich resource of learning
 - c) Adults become ready to learn when they have a need to know something
 - d) Adults tend to be less subject centered than children, they are increasingly problem centered
 - e) For adults more potent motivators are internal

What counts as PBL?

5 characteristics of PBL

1. Start with a problem scenarios
2. Authentic and ill-structured
3. Knowledge constructions
4. Students have responsibility for learning
5. Small groups 3-5

PBL vs Conventional (Elaine, 2016)

	Characteristics of PBL	Traditional teaching method
Lecturer or educator is the	1. cognitive constructivist 2. curriculum designer 3. learning coordinator	1. knowledge provider 2. curriculum designer
Problem can	1. be initiative for learning 2. reflect real life situation 3. motivate the learning 4. encourage critical thinking 5. integrate learning knowledge	1. examine individual learning performance in the test 2. be used as homework or assignment
Students are	1. main players in small group 2. cooperative learners 3. active learners 4. self-directed learners 5. knowledge creators 6. critical thinkers	1. class partakers 2. individual learners 3. passive auditors 4. lecture note followers 5. knowledge receivers 6. memorial style learners
Tutors are	1. learning facilitators 2. cognitive coaches 3. PBL discussion moderators	1. tutorial providers 2. Q&A respondents

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PBL begins with a problem

- Group analysis of what needs to be known
- Individual research
- Developing a solution
- Reflection on process & learning

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PBL involves group work

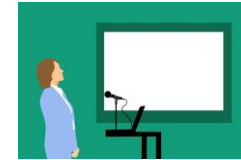
- Collaboration has benefits
Even for silent students
- Students need group skills
Medium-sized (3-5) groups work best
- Lecturers need facilitation skills
Expertise in subject may be less important

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Traditional

The teacher...



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Source: pixabay 21

PBL

The student...



Discovers

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Collaborates



The Process of PBL

- Problem (to triggers learning)
- Students specify:
 - what they know about the problem,
 - what they don't know
 - what they need to find out
- Student work together in teams to do research
- Presentation of findings
- Assessment & Reflection

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TIPS – ask ourselves

•What open-ended questions can be asked? What learning issues will be identified?

•How will the problem be structured? Check LO

•How long will the problem be? How many class periods will it take to complete?

•Will students be given information in subsequent pages as they work through the problem? Scaffolding process.

•What resources will the students need?

•What end product will the students produce at the completion of the problem? Report/forum/ sketch/ network design etc.

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EXAMPLES OF PROBLEM SCENARIO

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**TALENT MANAGEMENT FOR EXCELLENCE (TaME) SERIES
2020**

**Module 9. Future of Human Resources
Activities**

18 April, 2020
Online Learning

Dr. Faizah Shahbodin (UTeM)
Noor Muzura Mohamad Noor (UMT)



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PROBLEM SCENARIO



You found out that HR in your organization facing a problem in conducting succession planning especially when it comes to smell and groom a good talent. Based on your reading it seems that talent management is very important as highlighted by McColin Powell and Peter Drucker.

Hence, with the concerns of losing good talent, AKEPT has sought your advice on how to go about this matter. As an expert in Data analytics tools, you and your team plan to formulate a simple dashboard for talent management. You need to consider the strategic decision on how to align talent planning, resources, organization vision and mission as well as strategizing the management of academics, and R&D activities.

As a data scientist expert, you have been appointed by AKEPT to help HR managers in Malaysia Public university to find a solution on how data analytic could be used to solve talent management especially succession planning matter and how predictive Analytics could be used for Talent Acquisition

Aktiviti : FILA TABLE

Based on the problem scenario given, prepare a FILA (Facts, Ideas, Learning Issues, Action plan) table below to complete the whole learning activities for Module 9

FACTS	IDEAS	LEARNING ISSUES	ACTION PLAN

FACTS

Maklumat yang anda faham dan dapat secara terus dari skenario masalah yang diberi. Cth: yang diwariskan

You found out that HR in your organization facing a problem in conducting **succession planning** especially when it comes to smell and groom a good talent. Based on your reading it seems that talent management is very important as highlighted by McColin Powell and Peter Drucker.

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FACTS	DESCRIPTIONS
1.	i) Succession Planning
2.	ii) Fgf6b6gfdg
3.	iii) Dgfgsgdsd
4.	iv) Gdsgdsdsg
5.	v) sgdsgsg

IDEAS

Apa idea yang kita dapat berdasarkan fakta yang telah dikenal pasti. Senaraikan semua possibility daripada senario

You found out that HR in your organization facing a problem in conducting succession planning especially when it comes to smell and groom a good talent. Based on your reading it seems that talent management is very important as highlighted by McColin Powell and Peter Drucker.

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IDEAS	DESCRIPTIONS
1.	i) Technology could be uses as a solution
2.	ii) fgdgfdgfd
3.	iii) dfgdhdfdf
4.	iv) fdfdsfdgs
5.	v) fdfdsfdgs

LEARNING ISSUES

Apa isu yang penting kita perlu tahu untuk selesaikan masalah. Hints JH5W questions

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Learning Issues	How, what, why, where, which, who
1.	i) What is the data analytic tools available
2.	ii) Gefghfgh
3.	iii) Gfdgfdgfd
4.	iv) Gfdgfd
5.	v) Gfdgfdgfd

ACTIONS

Actions - Apa tindakan yang kita perlu lakukan untuk selesaikan masalah yang diberikan.

You found out that HR in your organization facing a problem in conducting succession planning especially when it comes to smell and groom a good talent. Based on your reading it seems that talent management is very important as highlighted by McColin Powell and Peter Drucker.

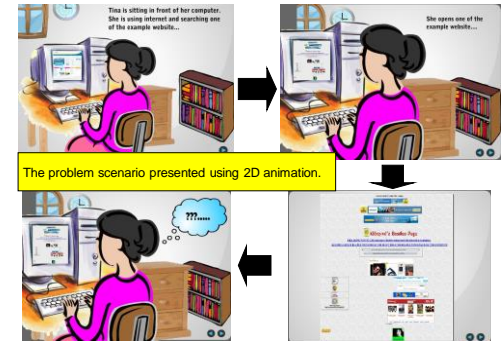
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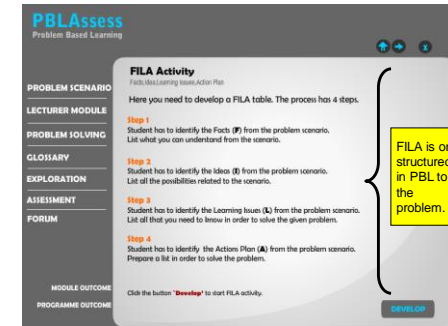
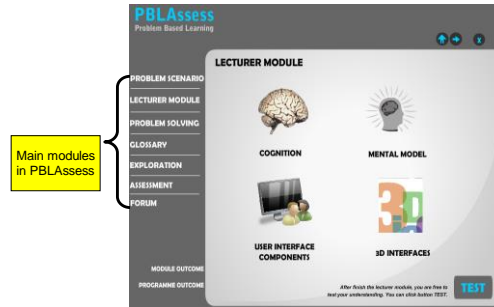
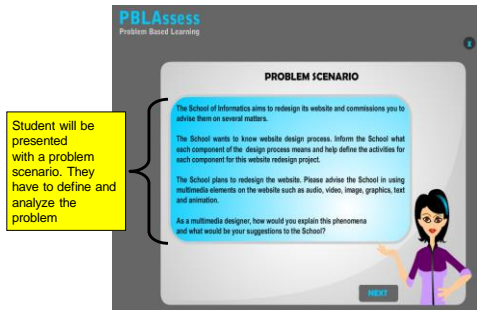
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Actions	DESCRIPTIONS (verb) eg. To do...
1.	i) Do a data cleaning on HR databases
2.	ii) Csdhfhghsd
3.	iii) Fdsfdgsdgsdf
4.	iv) Fdsfdsfdsdf
5.	v) fdsdfdsfdf



HCI at FTMK: Problem Scenario -Trigger





STEP 1 - Identify Facts

The problem scenario shows that the kind of information given is relevant to students.

As a Multimedia Designer, how can you help that School? You need to use FILA steps to help your articles. Before you enter the problem given, you need to identify what are the **Facts** given from the scenario. Use out all the facts that you can gather from the problem scenario.

Then you complete Step 1, proceed to Step 2.

NOTE

1. Read the scenario of the user interface design.
2. Then you can download the table.

3. Show the design of articles that will give you an idea in the explanation relationship get the facts.

STEP 2 - Identify Ideas

After you have identified all the facts, the next step is now how to identify the ideas. You can have a brainstorming session to get the ideas. Be a creative person. You can know the impact or alternative that might be related to the problem scenario.

Check the articles regarding user interface design to get ideas.

Then you complete Step 2, proceed to Step 3.

NOTE

1. This is a creativity part (You should be able to identify what ideas are good, and which are not so good. Making sure that your ideas is responsible to a good way).

STEP 3 - Identify Learning Issues

You are required to identify learning issues in order to solve the given problem.

List out all the Learning Issues that you can gather from problem scenario.

Then you complete Step 3, proceed to Step 4.

NOTE

1. The knowledge that you obtained from the scenario given. You can apply all the skills and ability of you and how to identify learning issues.

STEP 4 - Identify Actions

You need to identify the possible action or resource to solve the problem given.

List out the resource needed such as the internet, MO tools, social media, planning ability, other tools and etc.

Then you complete Step 4, proceed to Step 5.

NOTE

1. You can click on the explanation module and how to get the answers.

[FILA Table](#)

PBLAssess
Problem Based Learning

CHOOSE TYPE OF ASSESSMENT

PROBLEM SCENARIO
LECTURER MODULE
PROBLEM SOLVING
GLOSSARY
EXPLORATION
ASSESSMENT
FORUM

MODULAR OUTCOME
PROGRAMME OUTCOME

SELF ASSESSMENT

Self assessment is a process where students are involved in and are responsible for assessing their own piece of work.

PEER ASSESSMENT

Peer assessment is where students are involved in the assessment of the work of other students. They have to work to gain.

Type of assessment based on students preferences. They have to fill The answers using FILA table. The can download FILA table form in the system.

PBLAssess
Problem Based Learning

FILA Table

FACTS	IDEAS	LEARNING ISSUES	ACTION PLAN

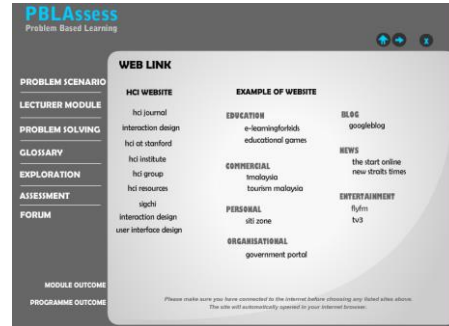
Student has to fill in the FILA table based on the problem.

To fill in the table, click [FILA TABLE FORM](#)

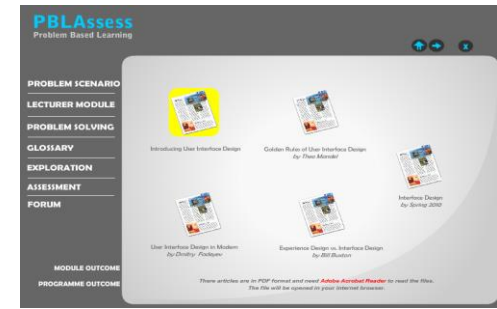
CLOSE



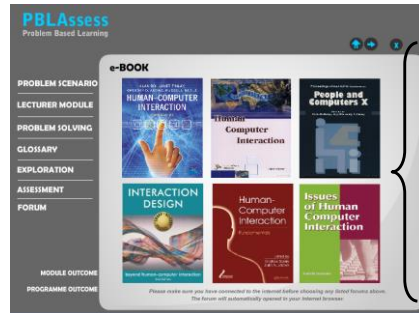
Example of submodules in Exploration module



Example of web links



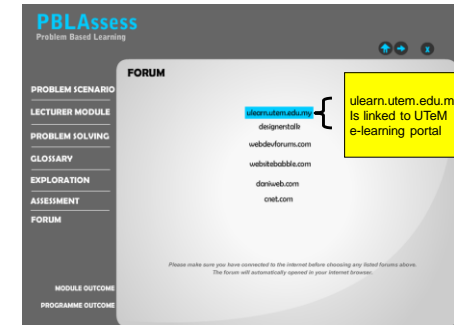
Example of related articles



Example of e-books for reference.

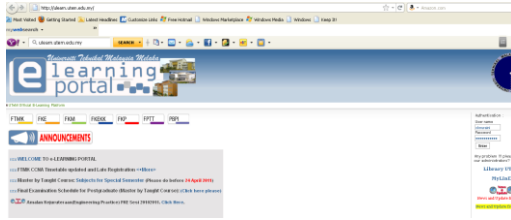


Example of good website design.



ulearn.utem.edu.my
is linked to UTeM
e-learning portal

UTeM e-learning portal http://ulearn.utem.edu.my



1. Rubric of Scoring

Rubric of Scoring Performance Assessments

Criteria	Score					
	1 (Deficient)	2 (Flawed)	3 (Limited)	4 (Competent)	5 (Strong)	
Facts Understanding					x	5
Ideas Generation				x		4
Issues Performing					x	5
Action Plan					x	5
Total Score						19 / 20

PBL Planning Tools

PBL Planning Form



PBL Information Gathering Tools



PBL Wiki



mynoteIT Beta

PBL Organizing Tools





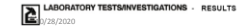
PBL Assessment Tools



Problem Scenarios presentation

Examples of trigger material for PBL scenarios

- Paper based clinical scenarios
- Experimental or clinical laboratory data
- Photographs
- Video clips
- Newspaper articles
- All or part of an article from a scientific journal
- A real or simulated patient
- A family tree showing an inherited disorder



How to create effective PBL scenarios

- Learning objectives likely to be defined by the students after studying the scenario should be consistent with the faculty learning objectives
- Problems should be appropriate to the stage of the curriculum and the level of the students' understanding
- Scenarios should have sufficient intrinsic interest for the students or relevance to future practice
- Basic science should be presented in the context of a clinical scenario to encourage integration of knowledge
- Scenarios should contain cues to stimulate discussion and encourage students to seek explanations for the issues presented
- The problem should be sufficiently open, so that discussion is not curtailed too early in the process
- Scenarios should promote participation by the students in seeking information from various learning resources

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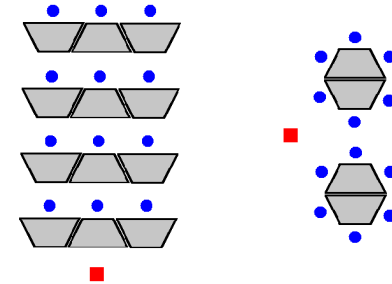
CHECKLIST

- Is the content of the problem geared to students' prior knowledge?
- Is there a clear connection with one or more of the objectives of the block?
- Is the problem sufficiently complex to offer cues for initial discussion and for generating learning issues?
- Is the problem structured in such a way that it offers cues for discussion in the group?
- Has the problem been formulated clearly and, if possible, does it offer links with professional practice?
- Is the problem multidisciplinary and is clear to students?
- Does the length of the problem enable inclusion of all the relevant information that is needed for identifying learning issues and does the problem not contain superfluous irrelevant information?
- Is the available time sufficient for studying the learning issues?
- Is there sufficient time available for reporting on all the learning issues?
- Does the block offer sufficient variety in learning activities, i.e. does it include different types and formats of problems?
- Is the number of problems geared to the number of group meetings in the block? Has a schedule been drawn up that specifies which problems are to be discussed when?
- Which problems should be tackled in a specific sequence?

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Classroom setting



Collaborative workspace

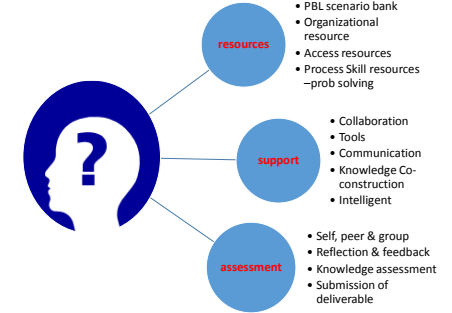
PBL Classroom



Flexible furniture in PBL classroom



Issues and challenges



Research done: Short Grant

Integrating PBL Approach in Developing an Interactive Web based Learning for Technical Course
PJP/2008/FTMK (19)-S498 -completed

Developing and testing of an assessment technique using PBL approach: A case study on FTMK Human Computer Interaction (HCI) Course.
PJP/2009/FTMK (12D) S591- completed

Developing and testing of PBL and game technique in learning Methematic: A case study at Merlimau Politeknik. - completed
PJP/2010/FTMK (15D) S789



AAU – Teaching and Learning category – PBL Innovation



Malaysian Association of Problem Based Learning (MyPBL)



Tagline:
PBL DRIVES TEACHING AND LEARNING

Book:
Pembelajaran Berasaskan Masalah
UTeM publisher

Book chapter - MyPBL – Akept

Book: Eksplorasi PBL

Shoppe order

Thanks for your attention
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