



Experiential

- **eLearning** •

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CADe's Learning For All Webinar Series
31st March 2020

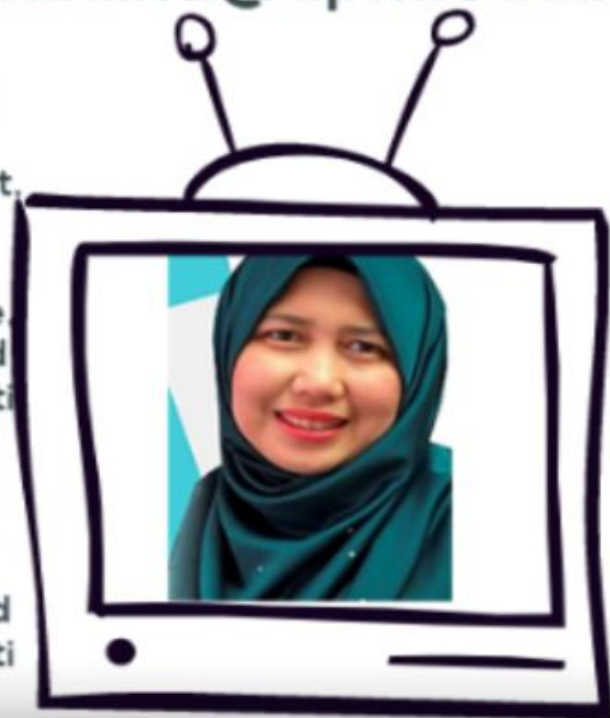
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Research Interests:
Machine Learning and Data
Mining
Recommendation System
Text Mining
Semantic Web



CREATED USING
POWTOON





Experiential
eLearning

YOUR
• STORY •
BEGINS
HERE



At the end of this session, you should be able to:

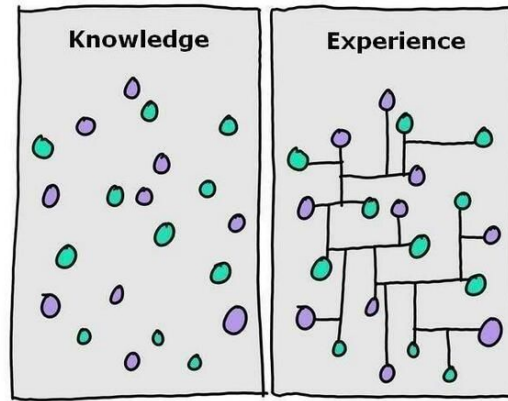
- 1) Synthesise the characteristics of experiential eLearning delivery
- 2) Design an experiential eLearning delivery implementation
- 3) Utilise suitable online teaching tools for effective cybergogy

Experiential
eLearning

YOUR
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BEGINS
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What are the characteristics of experiential learning?

Go to www.menti.com and use the code 72 34 01



Pic source: The Secret to Creativity, Intelligence, and Scientific Thinking: Being Able to Make Conncetions <https://www.shiftelearning.com/blog/create-life-long-learners-elearning>



Characteristics

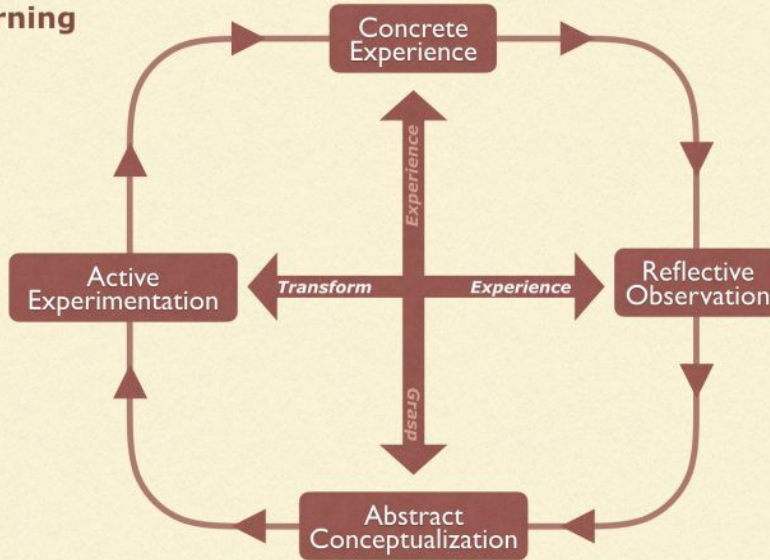
experiential
learning=learning by
doing, reflecting,
and applying
what was learned.



Learning activities and assignments were designed in a way that students were able to engage and interact with the content, the instruction, and their peers in the real world scenarios.

Cycle of Experiential Learning

- 1. Concrete Experience**
Doing or having a novel experience.
- 2. Reflective Observation**
Review and reflecting on experience with focus on understanding and identifying gaps in understanding.
- 3. Abstract Conceptualization**
Identification of what was learned from the experience. What could be changed to improve future experiences?
- 4. Active Experimentation**
Planning and/or applying new learning.



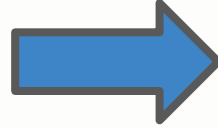
- ✓ Constructivistic Pedagogy
- ✓ Student Centered
- ✓ Dialectics Drive Motivation
- ✓ Cyclical Process Reinforces Progressive Learning

Adapted from Kolb, A. & Kolb, D. (2018). Eight important things to know about The Experience Learning Cycle. *Australian Educational Leader*, 40 (3), 8-14.

<https://www.tonybates.ca/2014/12/01/can-you-do-experiential-learning-online-assessing-design-models-for-experiential-learning/>

Concrete Experience or Feeling

- students learn by “diverging” or “feeling and watching.”
- observe and collect wide range of information.
- immerse themselves in media by going to a live concert, attending a movie and visiting a local art exhibition.



Reflective Observation or Watching

- students learn by “assimilating” or “thinking and watching.”
- presented with sound logical theories to consider, instructor recorded authentic instructional videos “How-To” to help students understand how to critic media.
- participated in asynchronous online discussions to share their views or learn from others in the class.

Example 1



https://secure.onlinelearningconsortium.org/effective_practices/designing-and-implementing-experiential-learning-through-multimedia-based-activi



Active Experimentation or Doing

- students learn by “accommodating” or “feeling and doing.”
- “hands-on” experiences.
- going through real publishing experience. - submitted their critical reviews for publication and went through accepting procedure for publishing.
- Accepted students final critical reviews were published in the public blog created by the course instructor.



Abstract Conceptualization – Thinking

- students learn by “converging” or “thinking and doing.”
- practical application of concepts and theories.
- wrote drafts of critical reviews for peer review

Example 2: Internet Scavenger Hunt

- Meaningful - real world
- Motivation - a driving question and compelling event
- Affective, cognitive and behavioral dimensions
- Comprehension and recall
- Critical thinking skills
- Collaborative and team skills
- Life-long learners
- Research and information gathering

Instructions:

To unlock the game you need to get a coupon so that you can form your team.

Move to a suitable place to sit with your members. Login into [PutraBlast](#) and launch the Quiz for your group to get access to your seed (data set) and your sack (presentation file).

You have to solve 3 mysteries with increasing difficulty levels. The first level is Naive Bayes, the second is Decision Tree and the last level is Evaluation. There are clues (example solution) as tools for you to progress the game. Use the quiz to unlock the levels. Prepare the steps of your solution in the sack. Make sure your solution matches your the answer in the quiz! Your solution and final answers should be reported and uploaded so that you could redeem the accumulated points.

Each team member assigned for the game steps and levels should complete the challenge given. All team members must collaboratively contribute in playing and completing the game. https://drive.google.com/drive/folders/1scRy00mb4n8L2KP0KFwDy62B_uD1JPdC?usp=sharing clue for Mystery 3. copy paste this into your python editor.

Communications through PutraBlast:

- Example-Decision Tree
- decision tree example 2
- Ch5
- Classification Algorithms
- Survey Ch5
- ClassificationGame-Mystery
- ClassificationGame-Mystery 2:NaiveBayes
- ClassificationGame-Mystery 3: Evaluation
- Naive bayes example
- Mysteries solved!



Reach your sack here. Make sure you save your in https://drive.google.com/drive/folders/1scRy00mb4n8L2KP0KFwDy62B_uD1JPdC?usp=sharing

- Decision Tree answers
- Rate TODAY'S GAME ACTIVITY
- Classification Game Chat Room



TREASURE HUNT

A flipped classroom activity where students collaboratively learn about one of the data mining techniques. The students are mixed randomly where each group has combinations of ethnics and data mining experience (some has learned this technique before in a different course so transfer learning also happens here). This activity does not carry any mark.

| Class | Age | Sex | Marital Status | Income |
|-------|---------|--------|----------------|-------------|
| 1 | 18-24 | Male | Single | 10000-14999 |
| 2 | 25-34 | Female | Married | 15000-19999 |
| 3 | 35-44 | Male | Single | 20000-24999 |
| 4 | 45-54 | Female | Married | 25000-29999 |
| 5 | 55-64 | Male | Single | 30000-34999 |
| 6 | 65-74 | Female | Married | 35000-39999 |
| 7 | 75-84 | Male | Single | 40000-44999 |
| 8 | 85-94 | Female | Married | 45000-49999 |
| 9 | 95-104 | Male | Single | 50000-54999 |
| 10 | 105-114 | Female | Married | 55000-59999 |

Handwritten calculations for Naive Bayes classification, including the formula for the posterior probability and the resulting classification for a given instance.

Reflections after Treasure Hunt (captured a week after the Treasure Hunt through UPM Learning Management System)

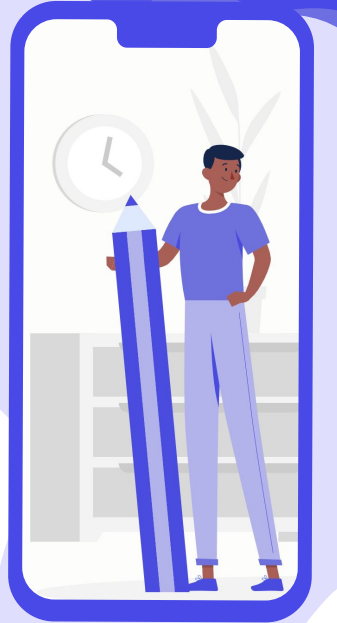
The main content of the reflections are the technicality aspect of the learned data mining model and highlighting on what they know and they don't know. Students also indicate self-motivation based on the activity.

The 3 things I didn't know before the class activity is that I have no idea what is data modelling all about, I do not how to determine the type of data model that is suitable for our dataset as our dataset is very huge and need to undergo many data pre-processing processes. Lastly, I do how to apply the entropy and gain to build a decision tree. The things that I surprise is that i know how to build a decision tree by looking and interpreting the value of gain and entropy. Not only that, due to our data does not contain the categorical data that is suitable for classification rule, so we try to transform it by discretizing it into smaller dataset and finally we manage to get the decision tree. So, I would like to explore more data models with different types of for accomplishing my coming project.

Before this activity, i not very understand about decision tree which is one of the classification model. I know that decision tree can apply when the attribute are categorical but just know that it can apply when the attribute is continuous-valued as well. The things that surprised us is when we looking with our dataset and we have no idea about how to do the decision tree model as our dataset do not contain any categorical data. This surprised us for a while as our dataset seem like more suitable doing association and clustering model. To do the decision tree model, we try to transform our data so that it become suitable for decision tree model to know the loyalty of

3 things i didn't know before the class, i have no idea on how decision tree is generated, i do not come out with the model. I do not know how to interpret decision tree and i got little confused about the calculation for entropy. This activity has taught me on how to calculate the entropy and how to generate the decision tree manually by calculating the entropy. I would like to explore more with the software tools that can help to build the data model.

To be able to understand the student's emotion after the treasure hunt, I have conducted a 3-2-1 based activity to get the reflection of the students. The picture above shows some reflection. An online poll was also created using PutraBlast, as shown in the next page.



Rate TODAY'S GAME ACTIVITY ▶ View 44 responses ▶ Responses

Rate TODAY'S GAME ACTIVITY

Responses

| Choice options | Not answered yet | This is an effective learning way for me | This does not help my understanding of the course | My friends did not help me | I learn a lot through discussion with my friends | We benefit |
|-----------------------------|----------------------------------|--|---|----------------------------|--|------------|
| Number of participants | 25 | 10 | 1 | 0 | 9 | |
| Users who chose this option | | | | | | |
| ABSETOU SY . | MUHAMMAD RUSYDI BIN ROSMAN . | NURUL HUSNA BINTI ABD AZIZ . | MUHAMMAD RUSYDI BIN ROSMAN . | MI RUC | | |
| ALEXIA FERRIC . | LEONG KA LAI . | | LEONG KA LAI . | LE LA | | |
| ANTOINE DELEUZE . | HAN HAN . | | HAN HAN . | HA | | |
| ARANDA REMY . | TAN YONG LIN . | | TAN YONG LIN . | TA LIN | | |
| ATINE SARA . | BHISMA NAMBIAR A/L JANAR DANAN . | | BHISMA NAMBIAR A/L JANAR DANAN . | EN N/ BII SH | | |
| ELLIOTT MARIE PETITDIDIER . | | | | | | |

The Treasure Hunt is Checkpoint 1 in my teaching, where each checkpoint is used for each data mining task.

The picture on the left is a printscreen from the PutraBlast system that I used for conducting an online poll (the Choice function is used). 25 students haven't answered, at the time this snapshot is taken while 10 person indicates that the Treasure Hunt is an effective learning way for them. 9 person said they have learnt a lot from their friends while 1 person said it was not helping. The positive feedbacks are aligned with the students submission. All groups have managed to complete the mysteries. Their deliverables, in the form of paper-based step-by-step algorithm implementation allow them to deeply learn the topic collaboratively.





Example 3: Inquiry based Learning

Chapter 3

Expert system is a rule based computer system which simulates a human expert in his/her field of expertise in an attempt to solve a particular problem. They are Artificial Intelligence applications that use a knowledge base of human expertise for problem solving. Its success is based on the quality of the data and rules obtained from the human expert. In practice, expert systems perform both below and above that of a human.

Example of expert system application:

Coronavirus screening <https://www.doctoroncall.com.my/coronavirus/how-to-find-out-if-i-have-coronavirus-online-test>

Expert system where to marathon <http://www.exsyssoftware.com/CORVID/corvidsr?KBNAME=../Marathon/Marathon.CVR>

Restaurant selector <http://www.exsyssoftware.com/CORVID/corvidsr;jsessionid=913BD678D61A2564E4CCFC53DE358812>



Slide



Forum-Expert System





View my blog on this course

Step 1: COVID19 was used as a task, students **find and discuss** the attributes that determine risks. Then we explore the COVID19 screening apps and other expert systems applications. Then we discuss the difference in each applications. Students CRITICISE and APPRECIATE the variations in each solution.

Step 2: Students are asked to design a decision making application to assist choose which phone suits the customer. They have to draw the interface and design the logic predicate rules. .

Forum-Expert System

Add a new discussion topic

| Discussion | Started by | Last post ↓ | Replies | Subscribe |
|-----------------------------------|---|--|---------|-------------------------------------|
| ★ Expert system application D.I.Y |  PROF. MADYA ... 5 Mar 2020 |  PROF. MADYA ... 10 Mar 2020 | 16 | <input checked="" type="checkbox"/> |
| ★ Applications of Expert System |  PROF. MADYA ... 5 Mar 2020 |  ABDULLAH FA... 10 Mar 2020 | 24 | <input checked="" type="checkbox"/> |

Forum-Expert System

Expert system application D.I.Y

Settings

Applications of Expert System

Display replies in nested form

Move this discussion to ...

Move



Expert system application D.I.Y

Thursday, 5 March 2020, 4:18 PM

Hello everyone! As activity for this week, refer <http://www.cs.umanitoba.ca/~comp4200/Notes/Reasoning-new-1.pdf> as example of rules base system and reasoning method.

Develop the design of interface and knowledge base for an expert system for smart phone purchasing. elaborate on the rules, flow and reasoning. Upload your file containing all this information.

Reply this forum by indicating why your expert system design is more advantageous compared to other people's. Contest your friends' design.

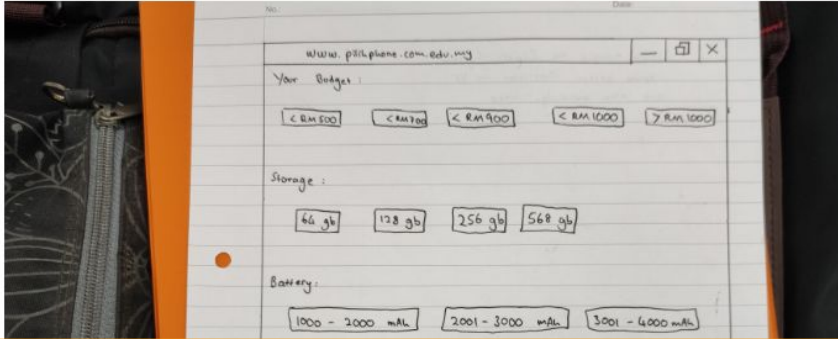
Step 3: Students discuss and build their solution. They are **UNCERTAIN** but in **HIGH MOTIVATION** to complete their task. They even **COMPETE** with each other. They have to pitch orally (some presented physically, some built videos) on their design. They justify why their design is the best.



Re: Expert system application D.I.Y

Tuesday, 10 March 2020, 2:29 PM

I tried to draw the best ui that simplify and easy yo use features



Re: Expert system application D.I.Y

Tuesday, 10 March 2020, 2:56 PM

I think my system's design is advantageous than the rest because my system able to select the best phones that fulfilled buyers options and preferences. My system can also avoid the buyers from choosing inexistent phone specs.

Permalink

Show parent

Edit

Split

Delete

Reply



Re: Expert system application D.I.Y

Tuesday, 10 March 2020, 4:05 PM

Very good. Thank you for the presentation. Dim function is indeed an important element in intelligent application.

Permalink

Show parent

Edit

Split

Delete

Reply



Re: Expert system application D.I.Y

Tuesday, 10 March 2020, 2:58 PM

Salam n hello guys, check out our application, Phone Chooser V1

Your friend,
Syahmi n Niven

Attachment: Ai.pptx



Re: Expert system application D.I.Y

Tuesday, 10 March 2020, 4:08 PM

Very intuitive. Good job!

Case Study: A rich user and normal user those want to buy phone with high specification will choose Iphone where those want to buy phone with standard specification will pick Huawei phone. Meanwhile, rich user loves to have simple interface regardless the price of the phone. However, some rich users likes to have complex interface since they love to modify themes and so on. Other than that, a normal user prefers cheap phone with complex interface. Next, a phone with high specification which has sharp and better quality camera with the big storage but a phone that has ~~low~~ ^{standard} specification on have the standard camera with many types of storage size.

Phone Chooser V1

WHICH PHONE SUIT YOU ?

2. Do you prefer :

- Simple
- Complex



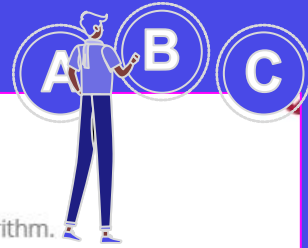
2020 . Copyright reserved .

Students REFLECT on their experience in performing the task. They said it was a different experience, they are UNCERTAIN about many things, but SATISFIED with their achievements. They also said the approach allows them to be CREATIVE, YET CRITICAL. They said now they look at apps design differently.

- ① $user(rich) \wedge spec(high) \Rightarrow choice(Iphone)$
 $user(rich) \wedge spec(standard) \Rightarrow choice(Huawei)$
 $user(normal) \wedge spec(high) \Rightarrow choice(Huawei)$
 $user(normal) \wedge spec(standard) \Rightarrow choice(Huawei)$
- ② $price(exp) \wedge interface(simple) \Rightarrow user(rich)$
 $price(cheap) \wedge interface(simple) \Rightarrow user(rich)$
 $price(exp) \wedge interface(complex) \Rightarrow user(rich)$
 $price(cheap) \wedge interface(complex) \Rightarrow user(normal)$
- ③ $camera(sharp) \wedge storage(big) \Rightarrow spec(high)$
 $camera(sharp) \wedge storage(low) \Rightarrow spec(std)$
 $camera(normal) \wedge storage(big) \Rightarrow spec(std)$
 $camera(normal) \wedge storage(low) \Rightarrow spec(std)$

My observation: Each group came out with different designs and unique justification. When some parts are similar, they could COMMUNICATE the design intricacy and UNDERSTAND purely the output, as it is their OWN.

Example 4: Problem based Learning



Chapter 4

Dear everyone!

Nice to see you all again amid online! In this chapter we will look into searching algorithms, which can be divided into heuristic and non-heuristic algorithm.


On 17th March, we will focus on the introduction to the concept of searching in AI. We will look into non-heuristic algorithms covering depth first search and breadth first search techniques. Our lesson will be conducted through online at <https://meet.google.com/pkh-hepm-gxe>. Dont forget to mark your attendance pls.

See you around!

Fadhlina



Exercise instruction

 Tuesday, 17 March 2020, 3:07 PM

Form a team of 4 people, each group should create a google slides which constis of minimum 2 examples on depth first search, 2 examples of breadth first search, and 2 practical applications on searching. Share your group's slides by 4.00PM TODAY. Dont forget to provide your team info! Thank you and see you again!



Step 1: Download the Slides



Step 2: Attendance on 17th March



Hi! Pls mark your attendance here!



Step 3: Join the Video Conference

On 17th March we will have a video conference as our lesson. Pls click to join!

Students use Google Slides to build their design and demonstrate solution. This activity carries no mark



Step 4: Exercise on uninformed search



Example 5: Portfolio Development

Step 1-Experience:

Discussion, assignment (identify industry latest challenge and data mining tools)

Step2-Experiment:

Dataset processing
Data mining implementation
Machine learning model development
Result analysis

Step 3-Reflect:

Relate results with original idea

Step 4-Share:

Presentation and e-portfolio development through blogging

The challenge for the project is based on a dataset obtained from Pelontar XI basketball association.

Coach Wan's Requirements

- Set of players that is either offensive or defensive oriented
- Prediction/probability of winning/losing based on different set of players
- Association rules on the winning or losing
- Clustering players based on their strengths and weaknesses
- We're open for analytics on either team or individual player; we want to understand which analytics that is valuable to make a decision during training and tournament.



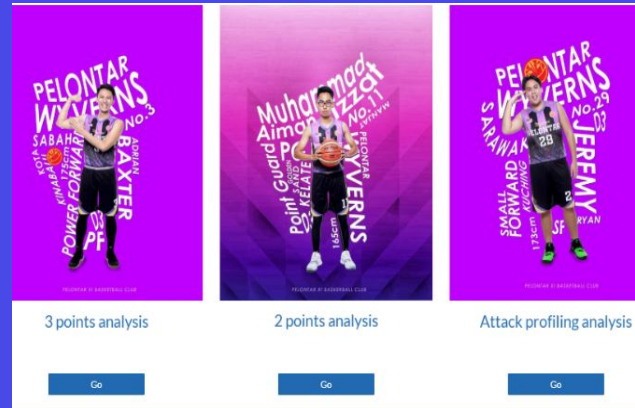
Rosdiadee Nordin
Wireless IoT and Next Generation Mobile Networks
4mo · Edited

Exploring the use of a data set to enhance the performance of basketball players via analytics. I hope the experience sharing is useful to the Data Mining students, including [Malik Dehili](#) and [Marie-Aude Morel](#).



18

3 Comments



See the example:

<https://sites.google.com/view/datamining-upm/data-mining-upm2019/upm-data-mining-2019-projects>

Techniques

Internet Scavenger Hunt

Games based Learning

Gamification

Video development

Portfolio development

Blogging

Online simulators

Role play

Immersive Learning

Problem based Learning

Case Study

Project based Learning

Inquiry based Learning

Cooperative Learning

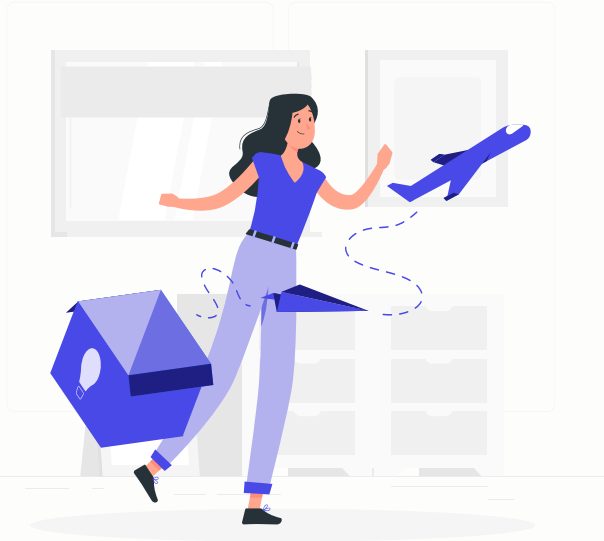


Virtual Conference Guide




<http://www.upm.edu.my/vcguide/>

*Lecturers are encouraged to **conduct surveys** of students' internet access before sharing in order to plan for the development of virtual classes

*Please **check the internet bandwidth** on relevant apps like Ookla and speedtest.tn



INTERNET BANDWIDTH

| | Low  | Medium  | High  |
|------------|---|--|---|
| SPEED | Below than 1.5 Mbps | 1.5 Mbps to 2.5 Mbps | More than 2.5 Mbps |
| APPS | Group messaging (e.g., Whatsapp, Telegram) | PutraBLAST Gamification apps (e.g., Quizizz, Kahoot) YouTube, FlipGrid, H5P | Virtual Conference (Big Blue Button, Zoom, Microsoft Team, Webex) Google suite (Doc, Slides, Drawing) |
| APPROACHES | Micro learning (slide as pdf, voice note, image with caption, text messages) | <ul style="list-style-type: none"> • Presentation slide • Interactive content • Survey • Quiz • Collaborative activities | <ul style="list-style-type: none"> • all approaches of low and medium bandwidth • Virtual conference |
| ACTION | <ol style="list-style-type: none"> 1. Choose a focused content to learning outcome and save as image. Write description as caption and upload. 2. Create Q&A activity. 3. Respond to students' answers | <ol style="list-style-type: none"> 1. Upload interactive learning content 2. Conduct collaborative activity 3. Create assessment using gamification apps 4. Respond to students' answers | <ol style="list-style-type: none"> 1. Conduct virtual conference using various functions Conduct collaborative activity 2. Create assessment using gamification apps 3. Respond to students' answers |

Synchronous

Synchronous virtual class takes place in real time.

Lecturer uses teaching materials interactively and in real time.

| ADVANTAGES | WEAKNESSES |
|---|---|
| <ul style="list-style-type: none"> Student's engagement Dynamic learning Instructional depth | <ul style="list-style-type: none"> Uncertain schedule Technical error may occur/ high Bandwidth |



Online learning



Direct delivery



Teamwork



Online chat

PutraBLAST & PutraMOOC Items

BigBlueButton
Chat

Other application

Zoom
Google Meet
Skype

Webex
Socrative
Formative

Combinations of synchronous and asynchronous lessons can be implemented, depending on the instructional design of that topic.

Flipped online classroom is highly recommended as it facilitates experiential online learning.

Asynchronous virtual class not dependent on location and time

Asynchronous

Teaching materials developed earlier and learning interaction not in real time.

| ADVANTAGES | WEAKNESSES |
|---|---|
| <ul style="list-style-type: none"> Flexible Accuracy Trustworthiness | <ul style="list-style-type: none"> Not parallel Unresponsive students |



Gamification



Forum



Assessment



Online learning



PutraBLAST & PutraMOOC Items

Games
Forum
H5P

Questionnaire
Feedback
Workshop

Assignment
Quiz

Other Applications

Google Classroom
Google Site
FlipGrid

Padlet
Open Learning



Post comment
Express opinion
Embed URL



Document
development



Annotate document
online



PIKTOCHART
Picture the Difference

Develop
infographic



..thinglink..

Annotate
image



Develop video
and express
opinion



Chat, meeting,
files



Tasks progress
tracking,
document
management



Video
conferencing,
chat, discussion
room

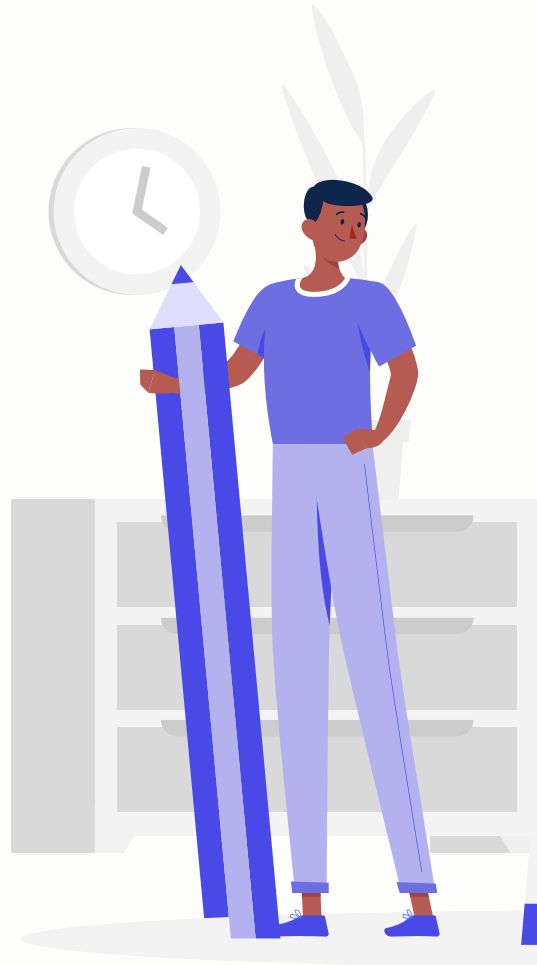
Collaborative ONLINE Tools

Borderless
Communication
Exchange of materials
Common output

Demo: Google Slides for collaborative,
InsertLearning for collaborative annotation

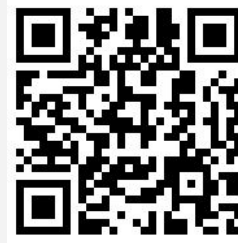
Activity: Share the experiential learning tools
for your area in Padlet

<https://padlet.com/nurfadhlina/IdeasBucket>



Activity

Share the tools for
experiential learning
in your area



<https://padlet.com/nurfadhлина/IdeasBucket>

PHET INTERACTIVE SIMULATIONS

University of Colorado Boulder

SIMULATIONS TEACHING RESEARCH ACCESSIBILITY DONATE

Earth Science

New Sims

- HTML5
- Physics
- Biology
- Chemistry
- Earth Science
- Math
- By Grade Level
- By Device
- All Sims
- Translated Sims

Flow

Balloons & Buoyancy

Diffusion

Gas Properties

Gravity Force Lab

Blackbody Spectrum

Gases Intro

Glaciers

Gravity And Orbits

Gravity Force Lab: Basics

The Gravitational Field

hhmi BiolInteractive

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Staff Picks Newest Most Viewed

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Featured

Epidemiology of Nipah Virus

This activity complements the video *Virus Hunter: Monitoring Nipah Virus in Bat Populations*. It explores cases of Nipah virus infection, analyzes the geographic spread, and...

Virus Explorer

This interactive module explores the diversity of viruses based on structure, genome type, host range, transmission mechanism, and geographic distribution.

Patterns of Zoonotic Disease

This activity guides the analysis of a published scientific figure from a study on the global distribution of zoonotic pathogens and their host species.

Simulation Tools

AsperLabs

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Biologi Experiment 1

Connecting Concepts: Interactive Lessons in Biology

Lessons Help Instructor Resources About

Welcome to **Connecting Concepts: Interactive Lessons in Biology**, a series of interactive, web-based lessons designed to give introductory undergraduate biology students opportunities to connect biology concepts, click on any lesson below to begin, or navigate using the links above to find out more about the project.

| | | |
|--|--|---|
| <p>Animal Physiology</p> <p>Homeostasis Learn how homeostasis keeps the body's internal environment within normal levels.</p> <p>Signal Transduction Learn how signal transduction works and its role in behavior and disease.</p> <p>Evolution</p> <p>Natural Selection Learn how natural selection works and how genetic variation leads to evolution.</p> <p>Speciation Apply species concepts, follow speciation events, and solve problems in case studies.</p> | <p>Cell Biology</p> <p>Thermodynamics See how the laws of thermodynamics govern cellular and organismal processes.</p> <p>Chemiosmosis Look at chemiosmosis in cells and organelles and follow its evolution.</p> <p>Genetics</p> <p>Biotechnology Use your knowledge of genetics to create a "virtual" genetically-modified plant.</p> | <p>Ecology</p> <p>Population Dynamics Learn about population growth models that describe a bear, muskrat, fish, and elephant populations.</p> <p>Plant Biology</p> <p>Water Relations Learn how water potential drives water through a plant and how plants adapt to drought.</p> |
|--|--|---|

GENES TO COGNITION Online

Disorders: ADHD, Alzheimer's Disease, Autism, Bipolar Disorder, Depression, Schizophrenia

Cognitive Processes: Attention, Language, Learning & Memory, Perception, Thinking

Research Approaches: Bioinformatics, Ethics, Gene Finding, Model Systems, Neuroimaging, Psychology

Targeted Content: 3-D Brain, Teacher Feature, G2C Research Programme, Protein-Protein Interaction Database

Welcome

Genes to Cognition (G2C) Online is about modern neuroscience. It focuses on cognitive disorders, cognitive processes, and research approaches. Use the dynamic network maps to explore our library of 750+ unique items. Or, use the linear Selected Items menu on top of each map to tour selected content. Explore, interact, and have fun!

FEATURES

Simple Mapper

We developed *Simple Mapper* to power this web site on the brain. Now, you can use it to...

G2C Blog: Thoughts on Thinking

Did you know dolphins can stay constantly awake for weeks? Young parents and workaholics are very familiar with the effects of sleep deprivation, and almost everyone is...

3-D Brain

The *G2C Brain* is an interactive 3-D model of the brain, with 25 structures that can be rotated in three-dimensional space. Each structure has...



Frog Dissection

In-store Educational Discount Available

Virtual Frog Dissection Educational App

The Frog Dissection App is an ethical and educative alternative to live animal dissections. Help your students learn all about frogs and their biological functions, without the messy lab work or controversial questions

app screens
Click to view

Virtual Frog Dissection Educational App interface showing various dissection screens.



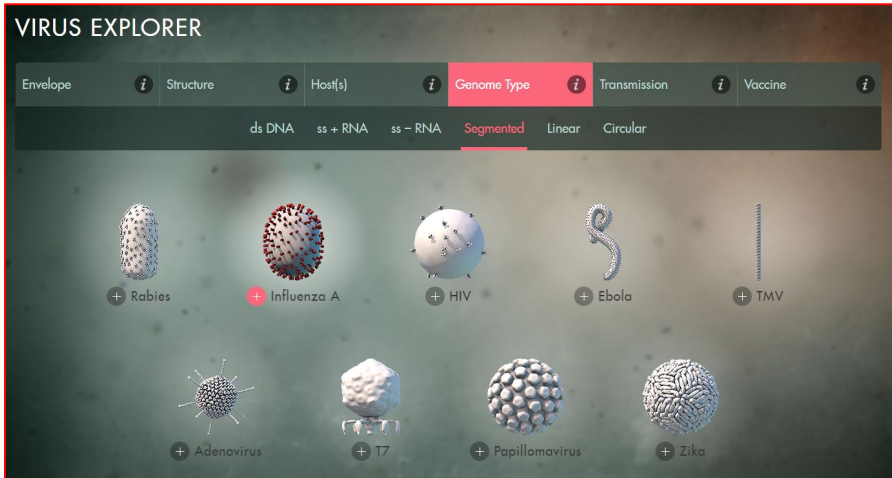
VIRTONOMICS

Business Simulation Game

Play now!

Virtonomics Business Simulation Game advertisement featuring a hand holding a city skyline.

Simulation Tools **iCell[®]**



VIRUS EXPLORER

Envelope Structure Host(s) **Genome Type** Transmission Vaccine

ds DNA ss + RNA ss - RNA **Segmented** Linear Circular

+ Rabies
 + Influenza A
 + HIV
 + Ebola
 + TMV
 + Adenovirus
 + T7
 + Papillomavirus
 + Zika

Virus Explorer interface showing various virus types and their genome types.



Animal **Bacteria** **Plant**

iCell simulation tool interface showing three panels: Animal, Bacteria, and Plant.

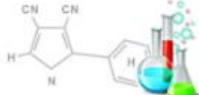
[FAQ](#)[System Requirements](#)

Formative Assessment

EXPERIMENTING OUTCOMES.



PHYSICS



CHEMISTRY



BIOLOGY



MATHS



ENGLISH



Featured Simulation

OLabs

The OLabs is based on the idea that lab experiments can be taught using the Internet, more efficiently and less expensively. The labs can also be made available to students with no access to physical labs or where equipment is not available owing to being scarce or costly. This helps them compete with students in better equipped schools and bridges the digital divide and geographical distance. The experiments can be accessed anytime and



Maths: [Wolfram Alpha](#), [GeoGebra](#)

Programming: [codeshare.io](#), [codebunk](#), [Google Colab](#)

Veterinar: <https://www.ivalalearn.com/>

Agriculture and Environment:

<https://www.agrilinks.org/tools-and-training>

<https://nifa.usda.gov/agriculture-education-toolkit>

Online Learning Tools

aquaculture fish farming

Closed containment - The future of fish farming
Living Oceans • 437K views • 6 years ago
Closed containment is the future of salmon farming in B.C. Sea lice infestations, farm waste, disease and escaped farmed salmon ...
7:26

Searches related to aquaculture fish farming

- aquaculture tilapia fish farming
- aquaculture system
- aquaculture fish farming...
- aquaculture at home
- aquaculture shrimp farming
- aquac minec

Aquaculture fish farming
YouTube
Fish Farming concept - animation • 5:54
Kaldnes® RAS, Recirculating Aquaculture System • 3:25

Fish Farming in California
CaBountiful • 162K views • 7 years ago
Kent SeaTech is the world's largest hybrid striped bass farm and California's largest fish farm. For more information, please visit: ...
6:04

Google AR brings 3D animals into users' homes

TECHNOLOGY

Monday, 30 Mar 2020

1:35 PM MYT

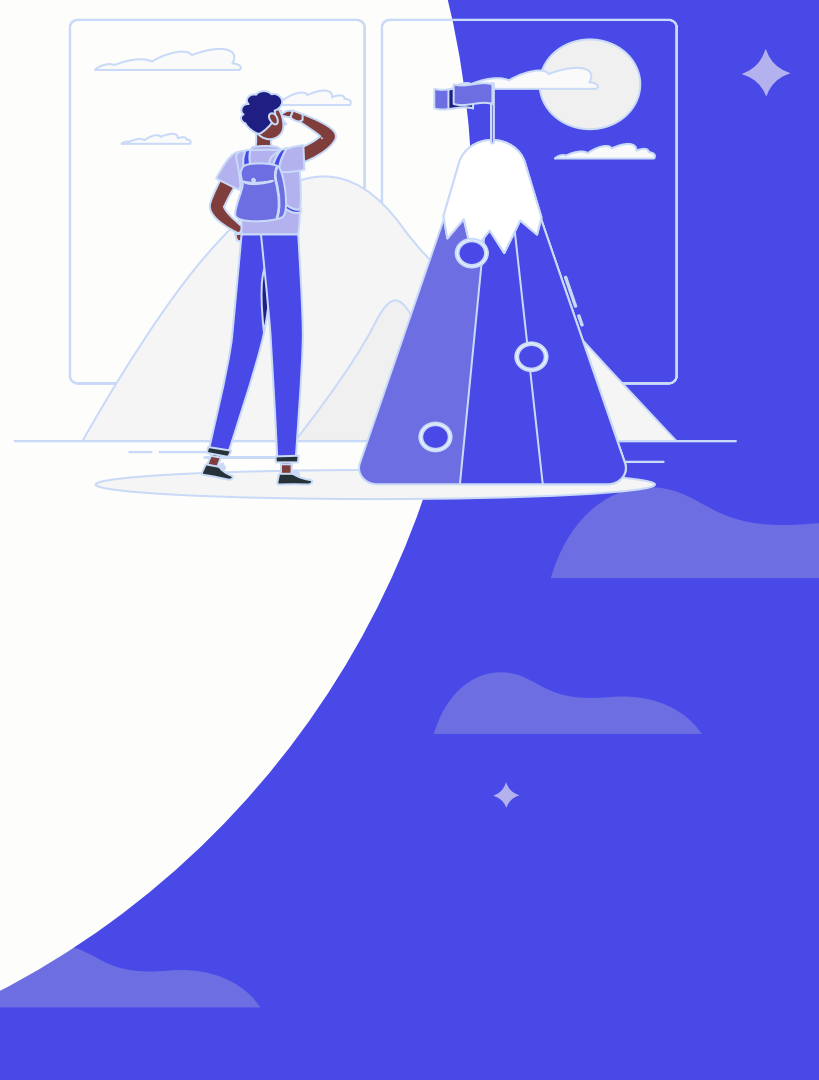
By Qishin Tariq



Ever wondered if you could fit a hedgehog in your living room, or maybe even a giant panda? Now you can try, using Google AR. — Google

PLAN your lesson

1. Identify the Learning Outcome
2. Design the task for experiential learning
3. Prepare microlearning materials
4. Let students explore, experience, reflect and share. Perform assessment as learning.
5. Let students explore, experience, reflect and share. Perform assessment for learning.
6. Let students explore, experience, reflect and share.
7. Perform assessment of learning.



Other examples of eAssessment implementation

- Quiz
- Test
- Examinations
- Project
- Essay
- Report
- Video
- Portfolio
- Product
- Infographic
- Observations
- Presentation
- Interview
- Listening/speaking test

- ❖ Conducted online
- ❖ Submitted online
- ❖ Has digital proofs
- ❖ Progress trackable digitally



**Participative
Interactive
Multi-dimensional
Variability and Uncertainty
Feedback**



**Interactive Learning Content
Technology Enhanced Active Learning
Collaborative Online Learning Tools**



Experiential e-Learning

SUMMARY



Knowledge IS BEST created through transformation of experience

As a learning designer, a well crafted plan is key to meaningful learning

Summary

1. Diagnostic Assessment using Mentimeter
 - a. Ice-breaking
 - b. Reflection
2. Experience sharing
 - a. Cloud computing tools for online learning activities
 - b. Social media for communication and coordination
3. Designs of experiential eLearning
 - a. Micro-learning
 - b. Collaborative activities
 - c. Assessment for understanding
 - d. Assessment of understanding



Appendix

ONLINE LEARNING DESIGN FOR COVID-19 PKP

| | | |
|--------------------------|--|---|
| Survey platform | Whatsapp | Source: |
| Internet speed | 90% Low 10% Medium | https://cade.upm.edu.my/upload/dokumen/20200330121443ONLINE_LEARNING_DESIGNER_(Assoc._Prof._Dr._Radhiah_Shukri).pptx.pdf |
| Teaching & Learning Mode | 90% asynchronous (Micro learning) 10% synchronous (Q&A session) | |
| Apps | Whatsapp (Major platform) Loom (Screen recording) Clipchamputilities (Reduce size of video file) | |
| Content | 1 core concept video lecture (2-3 minutes) 2 complete notes (pdf) Multiple short audio lectures with a few important note screenshots (1-2 minutes) List of other resources (Websites, You Tube) | |
| Assessments | <ul style="list-style-type: none">• Quiz• Picture of mindmap (Handwritten or apps)• Find product in their house and relate with the topic (Picture & recorded audio)• Q&A and discussion in Whatsapp (1X synchronous – Ask ALL students to prepare with questions)• Case study (Submit via Whatsapp with students name as file name) | |



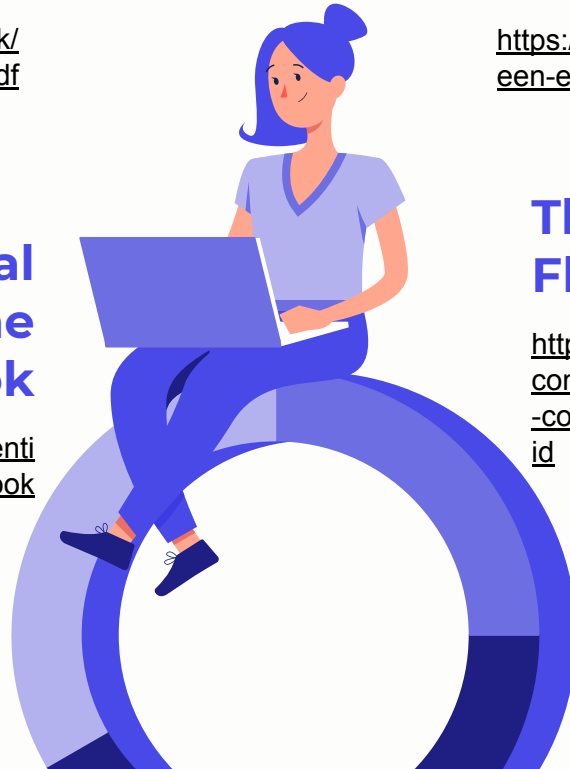
Extra Reading

Online Learning Survival Guide

[https://www.mobt3ath.com/uplode/book/
book-59307.pdf](https://www.mobt3ath.com/uplode/book/book-59307.pdf)

Experiential Learning Online Handbook

[https://elearningindustry.com/experienti
al-learning-online-how-to-handbook](https://elearningindustry.com/experiential-learning-online-how-to-handbook)



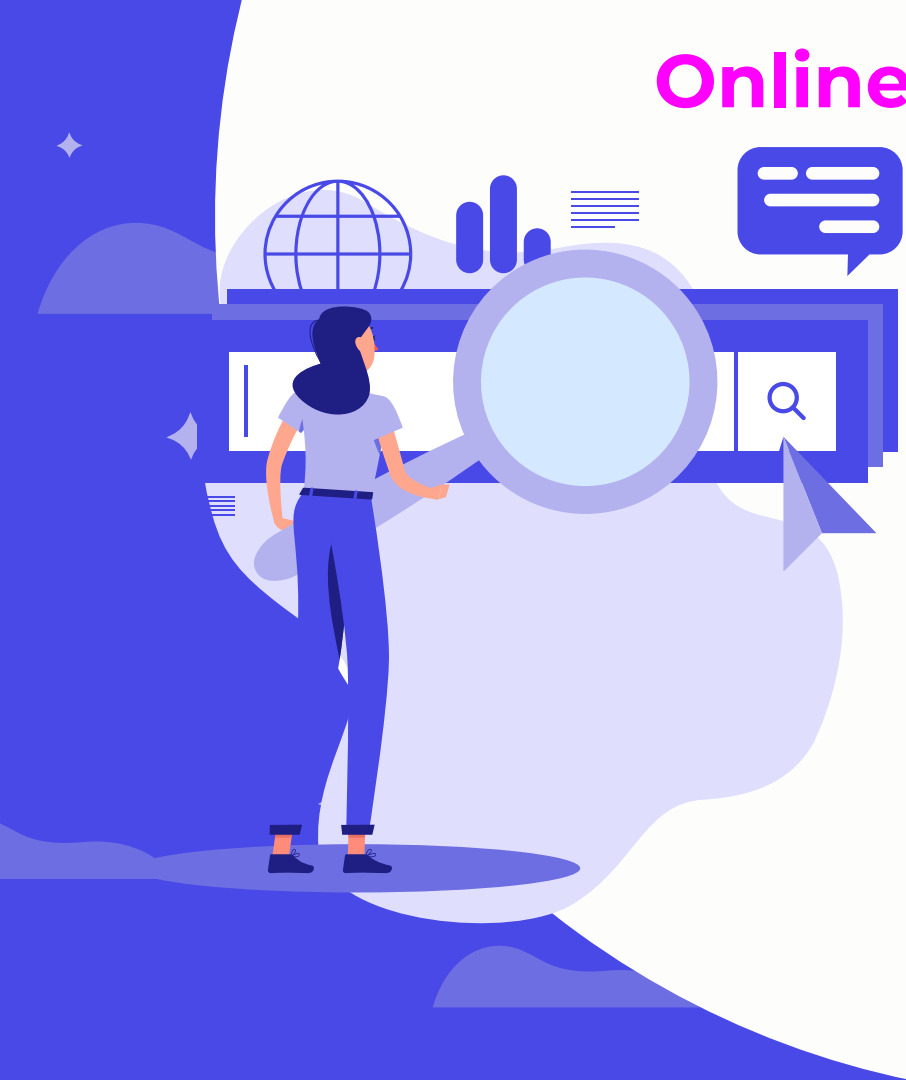
Emergency remote learning vs online learning

[https://er.educause.edu/articles/2020/3/the-difference-betw
een-emergency-remote-teaching-and-online-learning](https://er.educause.edu/articles/2020/3/the-difference-between-emergency-remote-teaching-and-online-learning)

ThingLink and FlipGrid

[https://globalonlineacademy.instructure.
com/courses/257/pages/tech-talk-online
collaboration-tools-1-thinklink-and-flipgr
id](https://globalonlineacademy.instructure.com/courses/257/pages/tech-talk-online-collaboration-tools-1-thinklink-and-flipgrid)

Online Apps for Teaching and Learning



Science apps: climate change, trees, conservation, and weather

<https://www.plt.org/educator-tips/science-apps-middle-high-school-students/>

Games and simulation

<https://resources.depaul.edu/teaching-commons/teaching-guides/technology/other-teaching-tools/Pages/games-simulations.aspx>

Science Apps:

<https://www.theedadvocate.org/10-apps-help-students-science-homework/>

Augmented Reality:

<https://www.teachthought.com/technology/32-augmented-reality-apps-for-the-classroom-from-edshelf/>

Online Apps for Science Education

List of online tools for science education

- 1) <http://asperlabs.tcchem.blog/wp/biology-experiment-1/>
- 2) <https://phet.colorado.edu/en/simulations/category/new>
- 3) <https://www.olabs.edu.in/>
- 4) <https://www.biointeractive.org/>
- 5) <http://www.g2conline.org/>
- 6) <https://media.hhmi.org/biointeractive/click/virus-explorer/index.html#/genome-type/segmented>
- 7) <http://icell.hudsonalpha.org/icell.html>
- 8) <http://www.frogvirtualdissection.com/>



Imagineering InnoCreative Educators

InnoCreative Educator is an important 21st Century teaching skill towards producing future ready graduates. In order to ensure impactful teaching, course should be redesigned by emphasizing all the three aspects of continuous quality improvement which are learning outcome, delivery and assessment. This course focuses on the variation of teaching approaches in order to address diversity of learning needs.

ENROLL NOW

Imagineering InnoCreative Educators



Synopsis

Learning Outcome

More Details

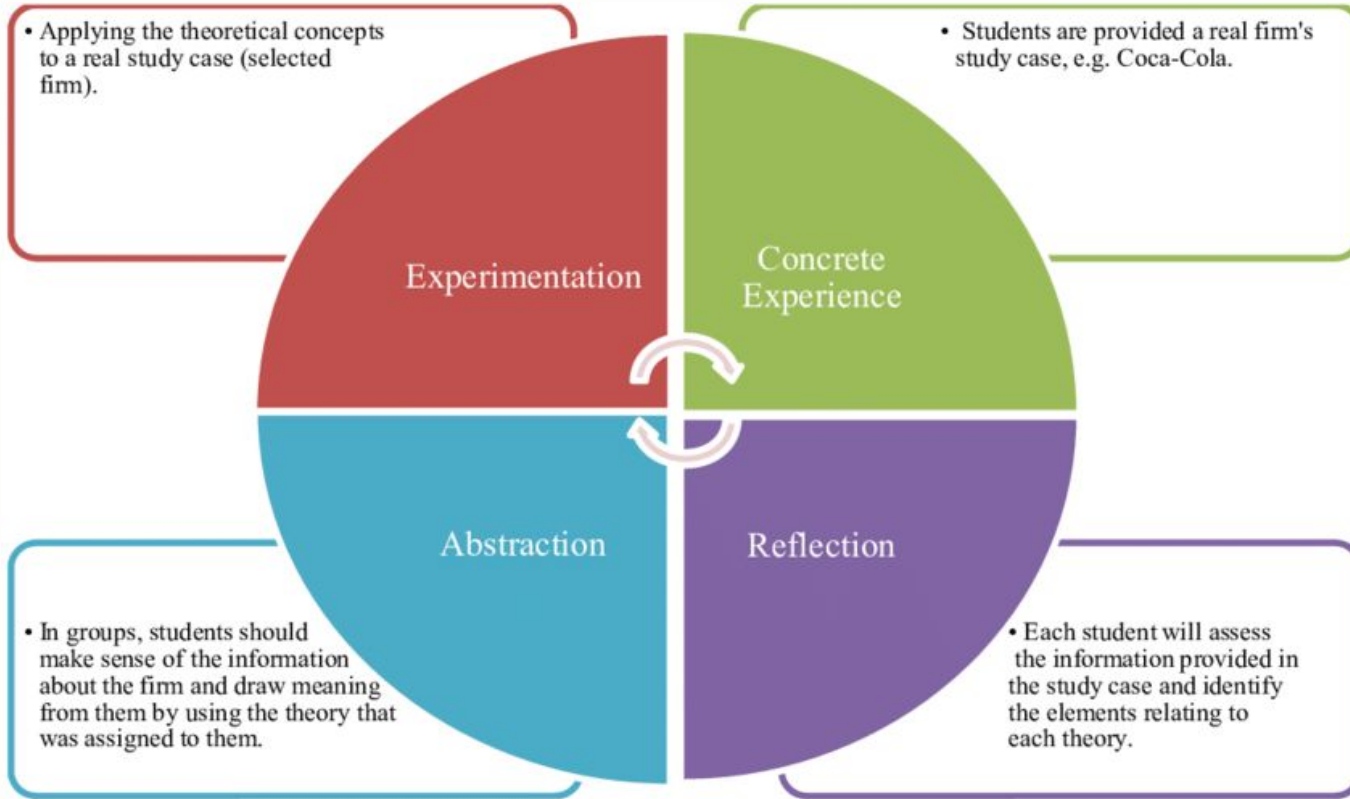
InnoCreative Educator is an important 21st Century teaching skill towards producing future ready graduates. In order to ensure impactful teaching, course should be redesigned by emphasizing all the three aspects of continuous quality improvement which are learning outcome, delivery and assessment. This course focuses on the variation of teaching approaches in order to address diversity of learning needs. The content are prepared based on the teaching practices by InnoCreative Educators from diverse disciplines. The course is structured according to clusters where assortments of teaching approaches implemented in relevant courses were shared. The activities and assessments in this course cover the collaborative development of innovative teaching delivery which are expected to assist in the equipping an educator aspiring to be an InnoCreative Educator.

Enrolled students: 55

Enter this course

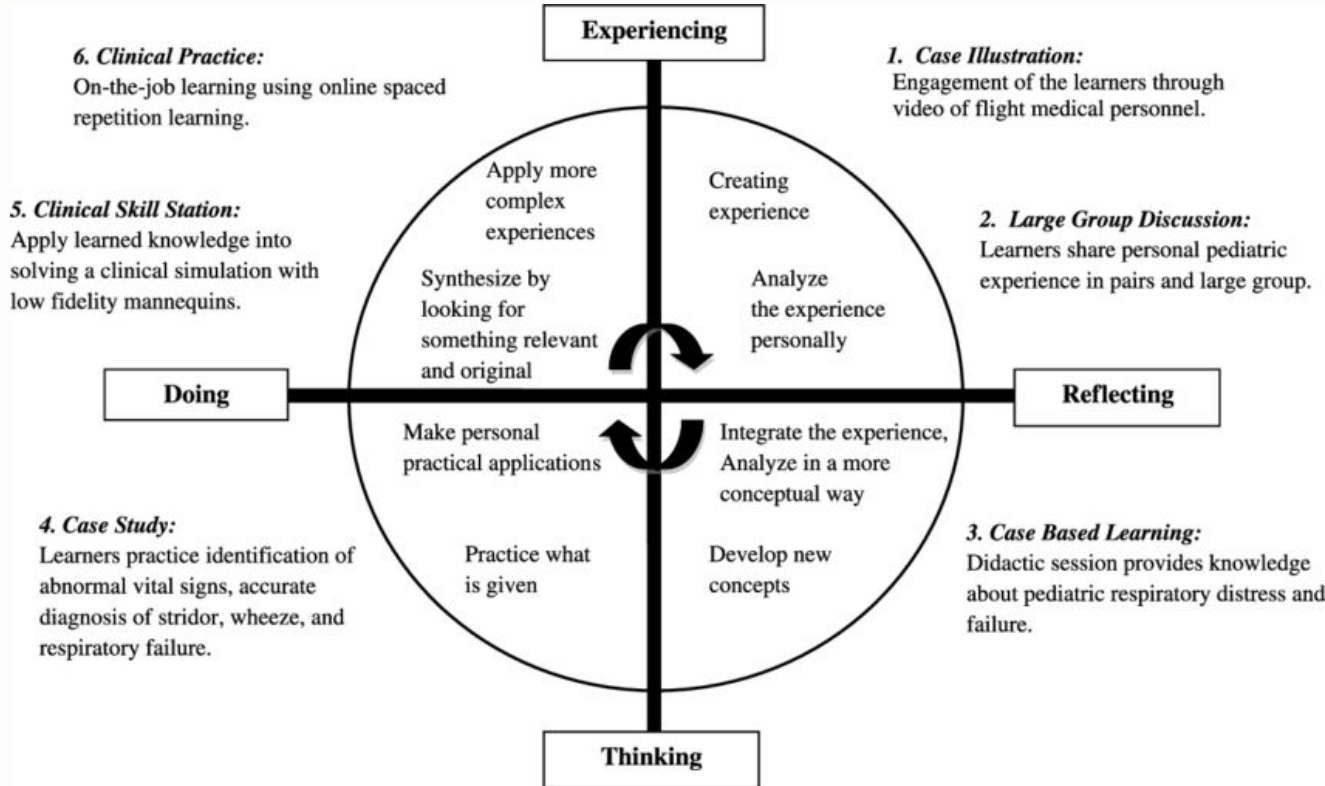


Examples of Experiential Online Learning



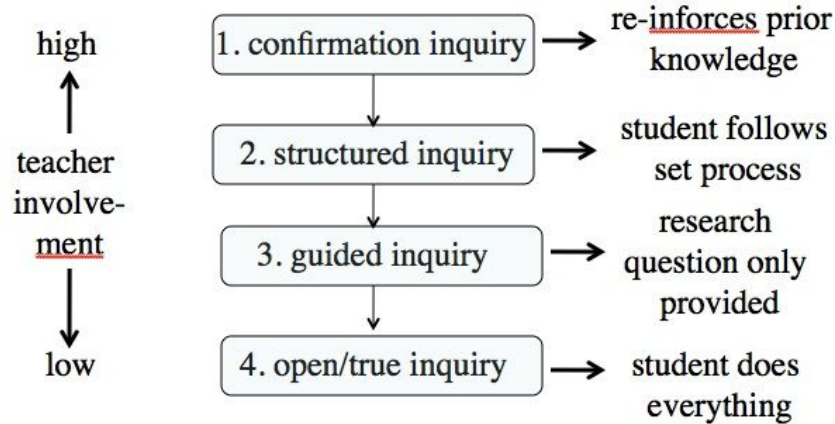
https://www.researchgate.net/figure/Kolbs-experiential-learning-cycle-applied-to-a-case-study-see-online-version-for-fig5_261961179

Examples of Experiential Online Learning



Inquiry based Learning

Levels of inquiry-based learning



FREE Slides template ✦

<https://slidesgo.com/>

<https://www.free-powerpoint-templates-design.com/free-powerpoint-templates-design/>

<https://www.slidescarnival.com/category/free-templates>

<https://www.presentationgo.com/presentation/category/templates/>

<https://powerpointify.com/category/free-templates/>

