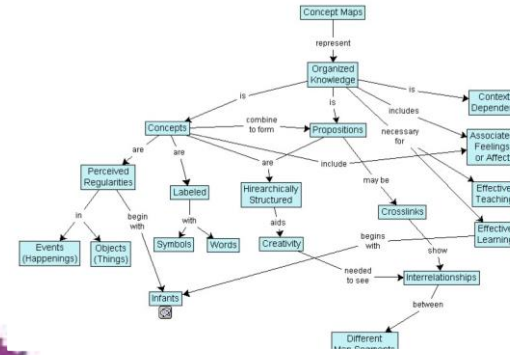


Zipinar



# Concept/Mind Maps

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# Zipinar Goal & Learning Objectives

**Goal:** The purpose of this Zipinar is to give a quick overview of the learning application of Concept/Mind Maps.

**Learning Objectives:** By the end of this Zipinar, you will be able to:

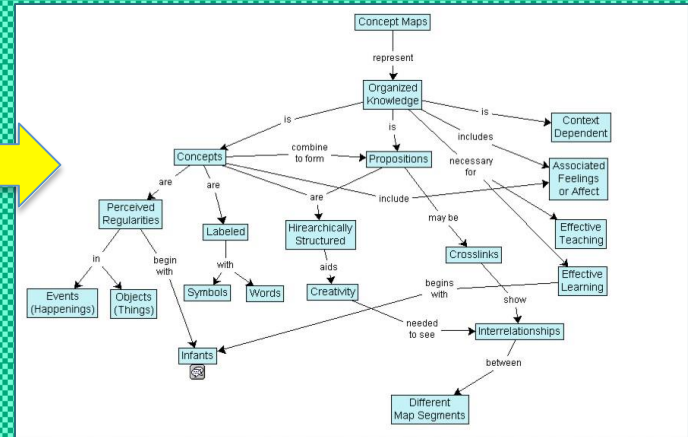
- Differentiate the structure of a concept map and mind map
- Explain the learning benefits of applying a concept map
- List the steps to generate a concept map
- Describe the facilitator's role with concept maps
- Assess concept maps using a rubric

# What is a Concept Map?

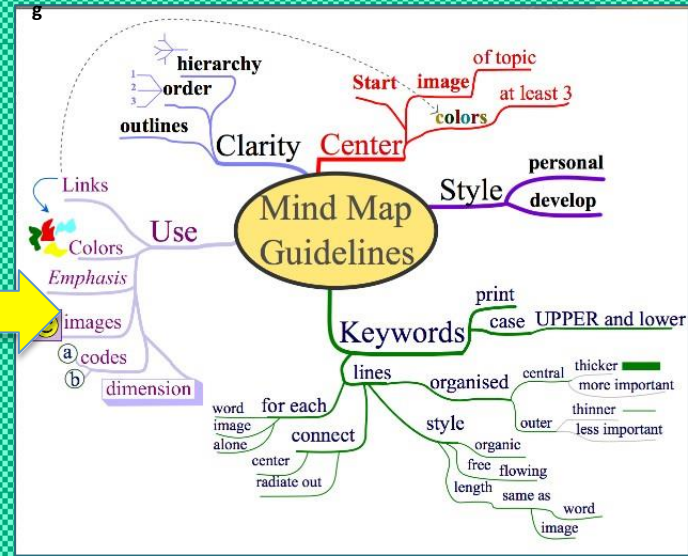
A concept map is a diagram that illustrates conceptual knowledge in nodes or cells and relationships linked with directional lines from general to specific.

Based on the Assimilation Theory of David Ausubel, Joseph Novak developed the idea of concept map to show prior knowledge linked to new concepts.

Concept maps begin with a focused question and moves top-down from general to specific connected by labeled links that can be cross linked. Whereas, a mind map is more flexible and personal graphic representation of a centrally--focused single topic that branches out like a spider and has color or images.

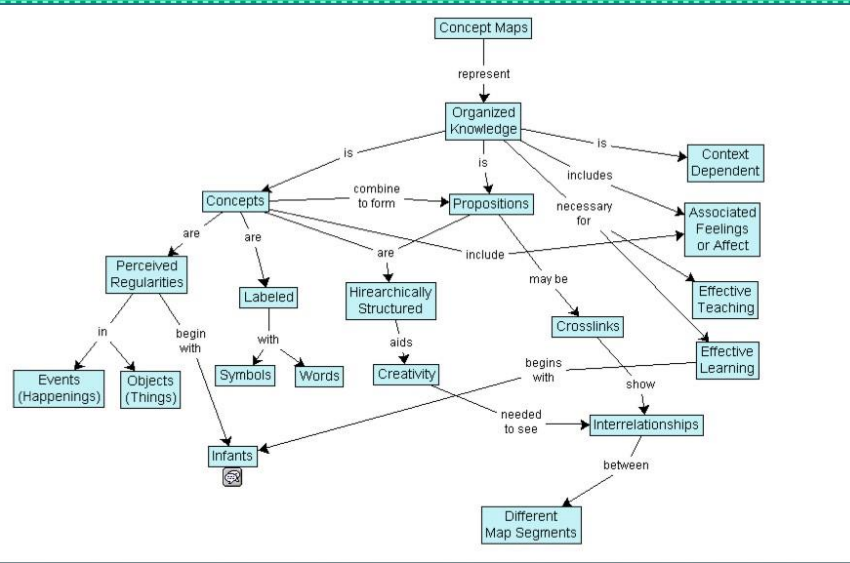


<http://upload.wikimedia.org/wikipedia/commons/d/df/Conceptmap.png>



<http://upload.wikimedia.org/wikipedia/commons/6/66/MindMapGuidelines.svg>

# Why Concept Maps in CBL?



Good for relating new information to previous knowledge

Best for formative exercises that includes more students needing active practice

Helpful for visually-oriented learners

## Concepts Maps involve:

- Active, collaborative learning  
(creating a graphic representation)
- Higher-order thinking  
(apply, analyze, synthesize, evaluate)
- Visual information organization  
(Integrates relevant information)
- General to specific information  
(hierarchal relationships of ideas)
- Easy comparison of groups
- Self-directed learning encouraged
- Missing information identified
- Critical thinking assessed

# How to Construct a CBL Concept Map?

## Instructor's Skeleton Map:

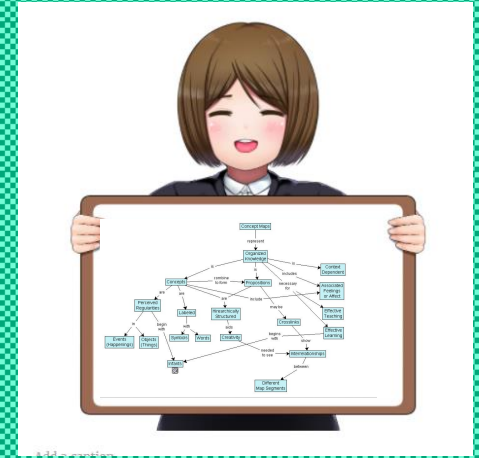
- a. From a selected case, show the case and identify the focused question
- b. Provide a parking lot of relevant information and concepts
- c. Prepare map with lots of white space
- d. Form group of learners or assign to all learners
- e. Give a time limit or due date
- f. Check map for achieving learning objectives and correct spelling

## Learner's Directions:

1. Begin with a given focused question or hypothesis
2. Create or select from a parking lot of key concepts
3. Relate concepts and link general to specific with arrows and phrases
4. Or, add to instructor-provided skeleton map
5. Revise with more patient information
6. Confirm final map for assessment

# Facilitator's Role in Concept Mapping

1. Introduce concept mapping exercise
2. Explain why concept mapping is assigned
3. Provide the learning objectives for mapping exercise
4. Specify criteria for assessing concept maps
5. Show an example and distribute materials/tools to map
6. Allow time for generating concept maps or give “expert skeleton” prepared by Facilitator
7. Observe activity and give feedback
8. Grade with a structured assessment sheet
9. Review maps with learners and ask for learner reflection on the final mapping



# Clinical Reasoning in a Concept Map

## Create a Case Parking Lot

Patent's story

History and Physical Exam

Prioritizing information

Program Representation

Hypothesis

Additional diagnostic tests

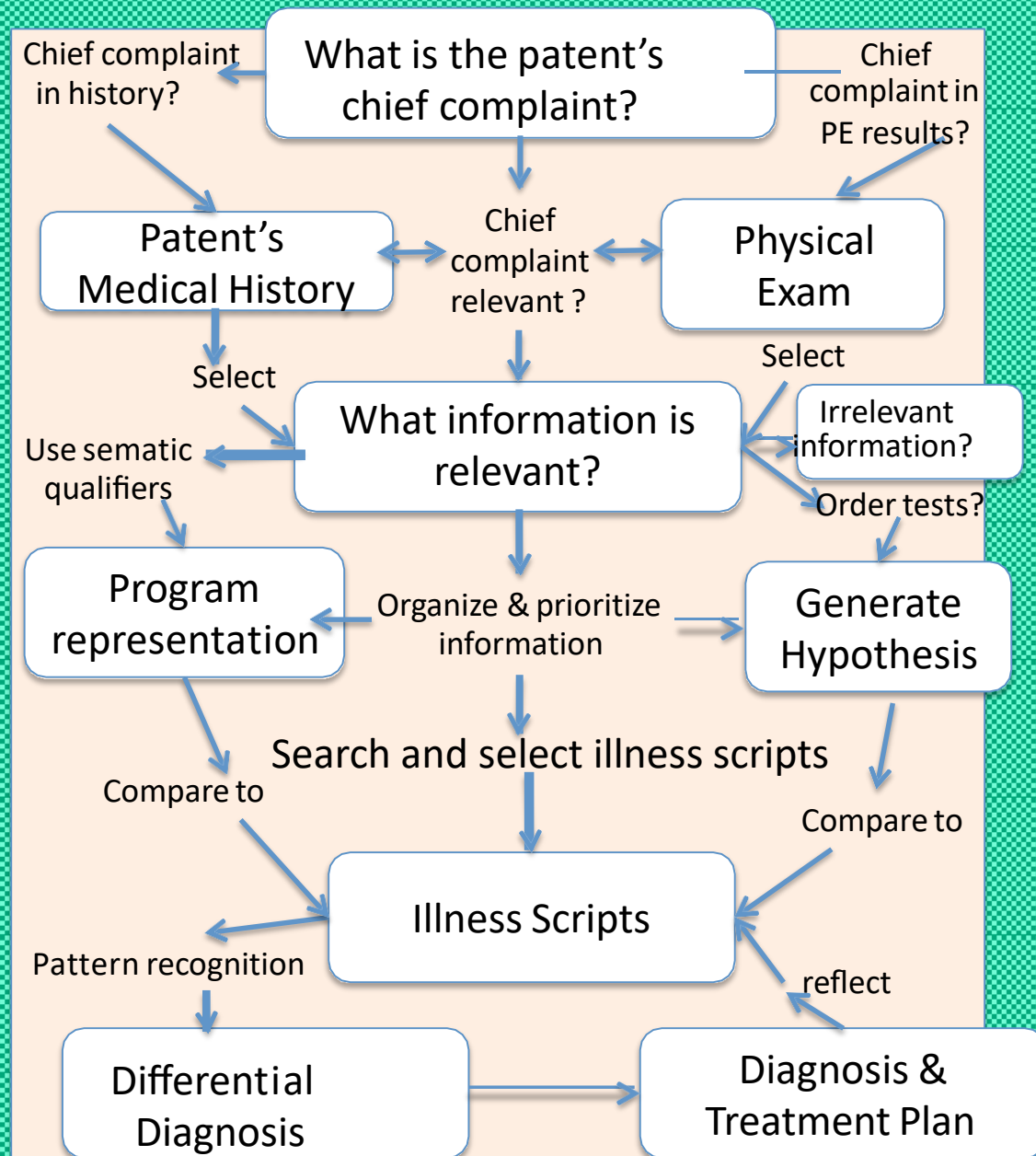
Comparison of illness scripts

Differential diagnosis

Diagnosis

Treatment plan

Prepare to treat patient



# Assessing with a Concept Map

## Benefits

- Encourages collaborative learning
- Promotes deep learning
- Transfers ideas easily in a graphic presentation
- Self-assesses actively by comparing learner's map to a master map

## Challenges

- Discourages non-visual learners
- Requires timing to complete map
- Frustrates learners if no feedback

## Assessment Items

- Identifies key concepts
- Links appropriate relationships
- Expresses critical thinking
- Sequences concepts in order
- Completes mapping task



# Concept Map Assessment Rubric

Criteria	Exemplary	Competent	Pass	Fail
Organization	Well organized	Thoughtfully organized	Somewhat organized	Confusing and incomplete
Links	Precise labeled links	Links labeled	Links not labeled	No links
Thinking	Original thinking included	Concepts suitable for topic	Adequate ideas expressed, but thinking not shown	Not clear thinking with inappropriate topics included
Communication	High level of understanding expressed	Clear presentation of understanding	Some understanding shown	Difficult to understand
Teamwork	Worked well & helped others	Worked well with others	Some teamwork	Little teamwork
Achieved learning objectives	Enhanced achievement	Completely	Partially	None

Adapted from Chan C.(2009). Types of assessment methods: concept map assessment. Assessment Resources @HKU, University of Hong Kong. 2009. Available at [http://ar.cetl.hku.hk/am\\_cm.htm](http://ar.cetl.hku.hk/am_cm.htm) . Verified 12/20/14.



# Sampling of Free Concept Mapping Tools

## Concept mapping

**Mindomo**

<https://www.mindomo.com/mind-maps-for-education>

**Cmap –**

<https://cmap.ihmc.us/products/>

**Gitmind**

[https://gitmind.com/concept-map-maker.html#\\_1](https://gitmind.com/concept-map-maker.html#_1)

**Mindmanager**

<https://www.mindmanager.com/en/features/concept-map/>

**Xmind**

<https://rb.gy/cldkln>

## Mind mapping

**Mindup**

<https://www.mindmup.com>

**Coggle** <https://coggle.it/>

**Bubbl.us** <https://bubbl.us/>

**Mindmaple**

<https://download.cnet.com/developer/MindMaple/i-10187653/>

**MindManager –**

<https://www.mindmanager.com/en/>

**Mind42**

<https://mind42.com/mindmaps>

## Mapping Tutorials

**How to Make a Concept Map**

<https://youtu.be/8XGQGhli0I0>

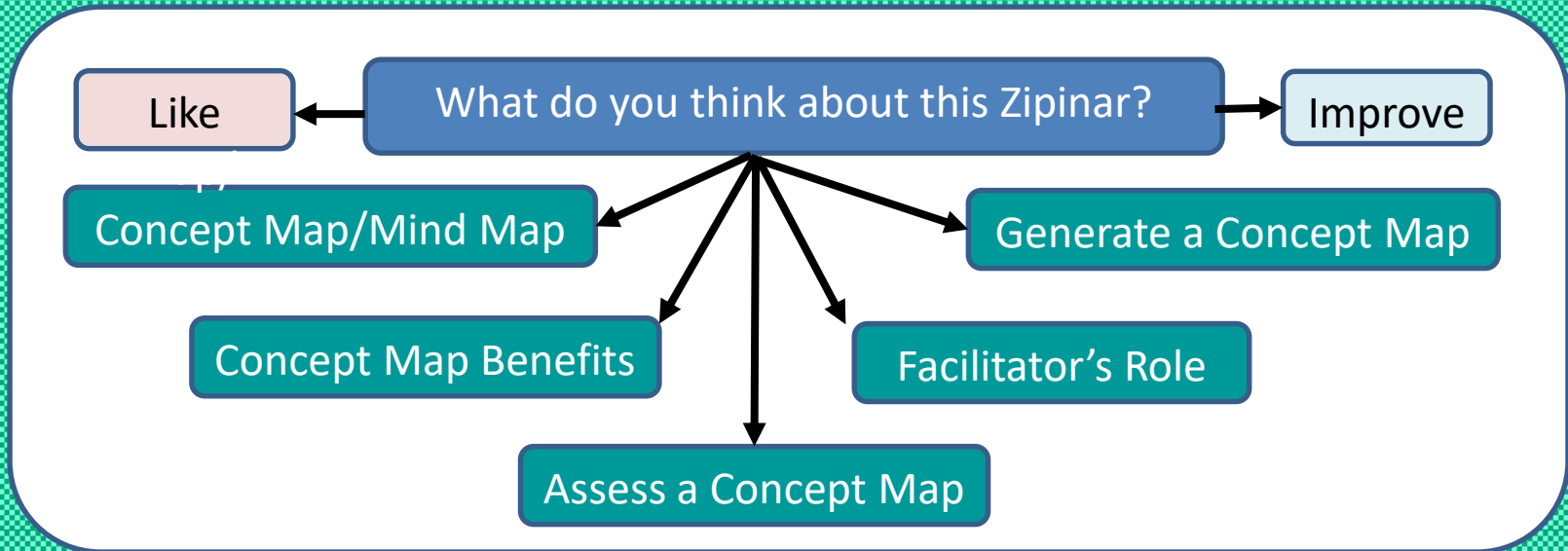
**Concept Mapping for Learning, Reflection, and Evaluation**

<https://youtu.be/DdHG66opp5Y>

**Word: How to Create a Learning Map**

<https://youtu.be/tZpgeCdbZGQ>

# Your Thoughts?



Please click on this [LINK](#) and take the brief survey and share your thoughts about this Zipinar.

For Residents, fellows, graduate students and medical students; please enter your name and site so that UMMS and your clinical site knows you viewed this Zipinar.

***Thank you for taking the time to view this quick overview.***

# Reading Sources

Chan C.(2009). Types of assessment methods: concept map assessment. Assessment Resources @HKU, University of Hong Kong. 2009. Available at [http://ar.cetl.hku.hk/am\\_cm.htm](http://ar.cetl.hku.hk/am_cm.htm) . Verified 12/20/14.

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