

Government of the Macao Special Administrative Region  
Education and Youth Affairs Bureau  
Society and Humanities Professional Development Workshop

# Strategies of Inquiry Learning — Learning and Practice

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# Content

- Purpose :
  - To examine the strategies of inquiry learning through geography-based and history-based exemplars as well as relevant learning activities.
  - Different types and variations of inquiry learning would be introduced, and would discuss how to practise inquiry learning in the secondary curriculum.
- Theme :
  - Introduce Interdisciplinary curriculum
  - Introduce inquiry learning and how to practise it in the secondary curriculum
  - Q&A Section



# Interdisciplinary Curriculum

- Thematic teaching
- Interdisciplinary concept
- Helping students to develop integrated thinking
  - Build new knowledge and concept
  - Develop broad and multiple perspectives
  - Nurture the spirit of inquiry
  - Develop the ability of inquiry
  - Nurture the pursuit of knowledge, empathy and critical competencies



# Macau Society and Humanities

- Value student's life experience and their development need

- Integrate the academic knowledge of social and humanities discipline

- Advocate diversified teaching strategies
- Emphasize on developing the key learning ability of society and humanities discipline

- Enrich humanities literacy

- Enhance student's thinking ability and their quality of citizen

- Promote the openness and flexibility of the curriculum

- Encourage the development of school-based curriculum

## Basic Principles



# Macau's Junior Secondary Society and Humanities

## Content of the curriculum

### ▪ Purpose

- To understand and respect Macau's culture
- Cultivate global perspectives
- Holistic learning : Knowledge · Attitude · Value · Skills

### ▪ Learning and teaching

- Inquiry learning
- Experiential learning
- Cooperative learning
- Socratic questioning



### ▪ 4 main areas

- Human and Time ( China, Macau and World history )
- Human and the Environment ( Natural hazards, Environmental problems )
- Cultural Origins and Society ( Ethnicity and Religion, Technology )
- Regional economies and Development ( Sustainable development, population, resources and economies )



# THE CHALLENGE

## Activity 1



What is inquiry activities ?



Construct explanation/Discuss results



Observation



Firsthand Experience



Examination



Design and conduct investigation



Which one are inquiry activities ?

Field Study



Recitation



Group discussion



Research/Design inquiry





Construct explanation/Discuss results



Observation



Firsthand Experience



Examination



Design and conduct investigation



All of these are inquiry activities !

Field Study



Recitation



Group discussion



Research/Design inquiry





# Think about.....



Why do we need to conserve heritage ?



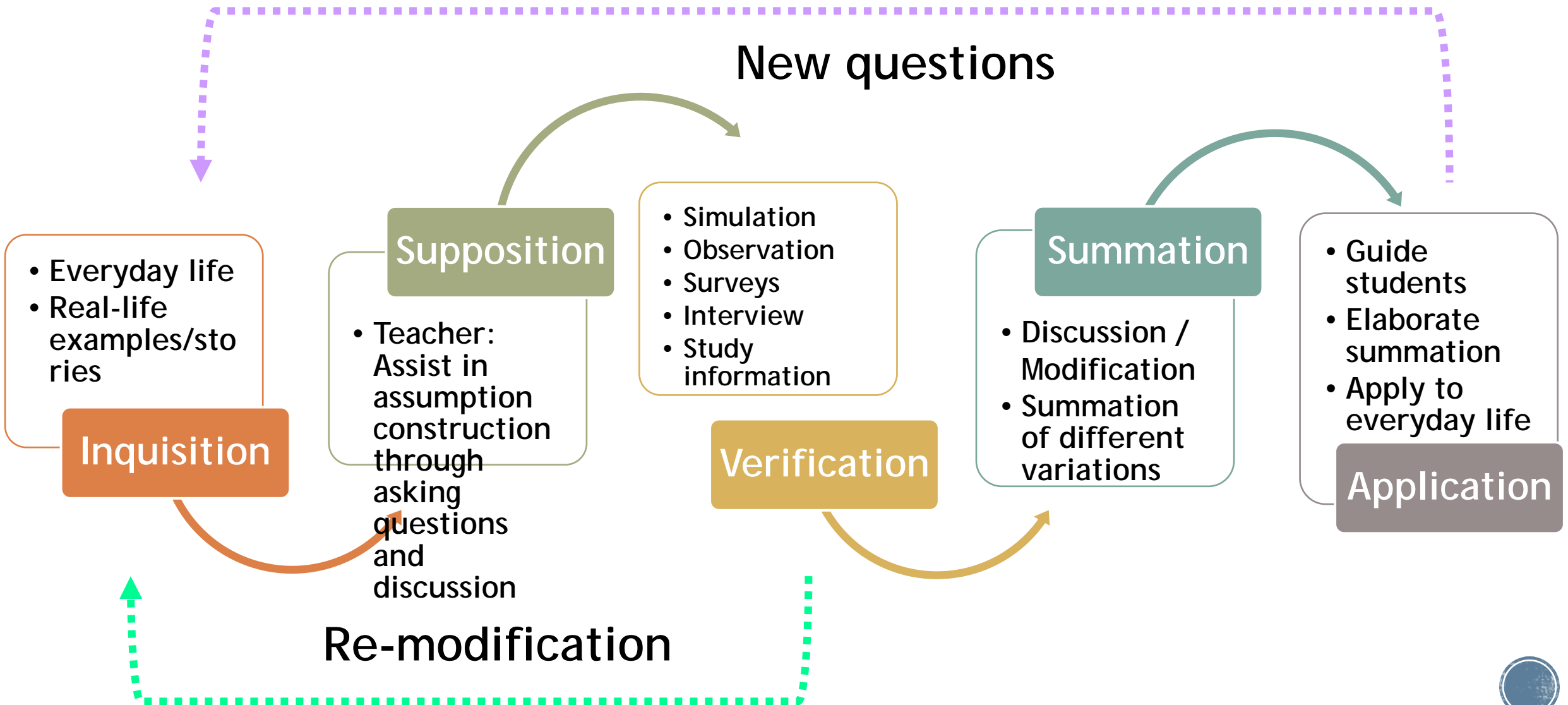
Why we need to strive a balance between economic development and cultural conservation ?



# **Inquiry Learning**

- Elements and Process
- Types and Variations
- Development of inquiry learning inside classroom
- How to select issues

# Elements and Process



# Types and Variations

Types Features	Structured	Guided	Coupled	Open
Pose a question	???	???	???	???
Design investigation	???	???	???	???
Inquiry result	???	???	???	???
Teachers 'role	???	???	???	???
Amount of learner's self-direction	???			



# How can the lesson develop inquiry learning?

Current ?  
Feasible ?  
Kinds ?

Application ?

Purpose ?  
Theme ?  
Skills ?

Stages ?  
Forms/types  
Function ?

Role ?  
Model ?  
Plan ?

Activity ?  
Discuss ?  
Sharing ?



# How to select issues?

## Pedagogical Design

- To help students develop the initial understanding and thought towards issues through concrete experience
- To develop abstract thinking through experience for the purpose of conceptualizing issues  
(陳智達、鄭雅儀、吳凱瑩, 2010)

## Basic Principles

- **Depend on the need of school-based curriculum**
  - E.g. Student current knowledge, ability and past learning experience
  - Link the unit “ Learning and Teaching” with the aims of micro classroom
- **Controversial topics**
  - E.g. Are social development and heritage conservation contradicting?

# Basic Principles

## ■ Timeliness of issues

- 2 types: Constant and Immediateness

❖ **Constant** : Constantly appear in Macau, China and global issues. There is not much time restriction in teaching. Therefore, students should have certain degree of understanding towards these issues, and their starting point of study could be higher

- E.g. What can we do to lessen global warming ? What is the problem of overvaluing money ? What values are worth pursuing ?

❖ **Immediateness** : Sudden outburst in society

- Students do not have enough knowledge and understanding towards the issues
- Should allow students to study background information and relevant concepts based on their current knowledge
- E.g. the skills and knowledge obtained from previous topics and life experience, and then could start the study
- To choose events which students are familiar with and are able to explain important concept (care, peace, participation, responsibility) as teaching activities, the advantage is that the events have been widely discussed in society, and they contain a great amount of controversial materials for discussion, which could help teachers to select suitable pedagogical content
- When choosing the information source, teachers should look for newspapers with different perspectives and reliable news report for learning materials. Avoid news with single information source as it might be biased and incomprehensive





# Basic Principles

## ▪ Complexity of issues

- **Teaching difficulties** : Teachers need to spend more time on explaining the background, different stakeholders, development, controversial points and important concept of an issue, etc.
- **Learning difficulties** : Students need to analyze a great amount of information, especially when conducting the issues-based learning in junior form, should pay attention to the issues whether there would be too much concepts and theories which are hard for student to understand and analyze

## ▪ Important concept of issues

- Including one to two concept(s)
- Based on student's ability to provide relevant basic information as knowledge base, which is more easy for students to understand and start their study
- Have to pay attention not to include too much theories which are difficult for student to understand

## ▪ Clarify the mainstream of issues

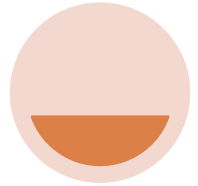
- When teachers are handling issue with complicated concepts, they should first organize information clearly in order to make clear the cause and effect of the issue, and select the most important and representative concepts, while other information could act as reference
- To help teachers guiding students to analyze the background, causes, consequences and effects of the issues, as well as the values including civic, social development, humanities, quality of life, environmental sustainable development, heritage conservation, etc.

## ▪ Elements of values

- Every issue contains values of relevant knowledge domain

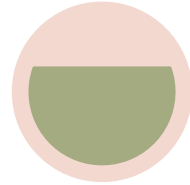


# Roles of Teacher in inquiry learning



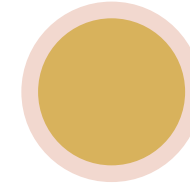
## Facilitator

- Stimulate students to think through questioning and providing guidance
- Design inquiry situation for students in order to stimulate their learning motives
- Inspiration and encourage questioning
- Arouse discussion



## Director

- Assist students in mastering the basic skills of inquiry learning
- Observation
- Survey
- Experiments
- Summation



## Helper and Supporter

- During lessons/group discussion



# Inquiry Learning

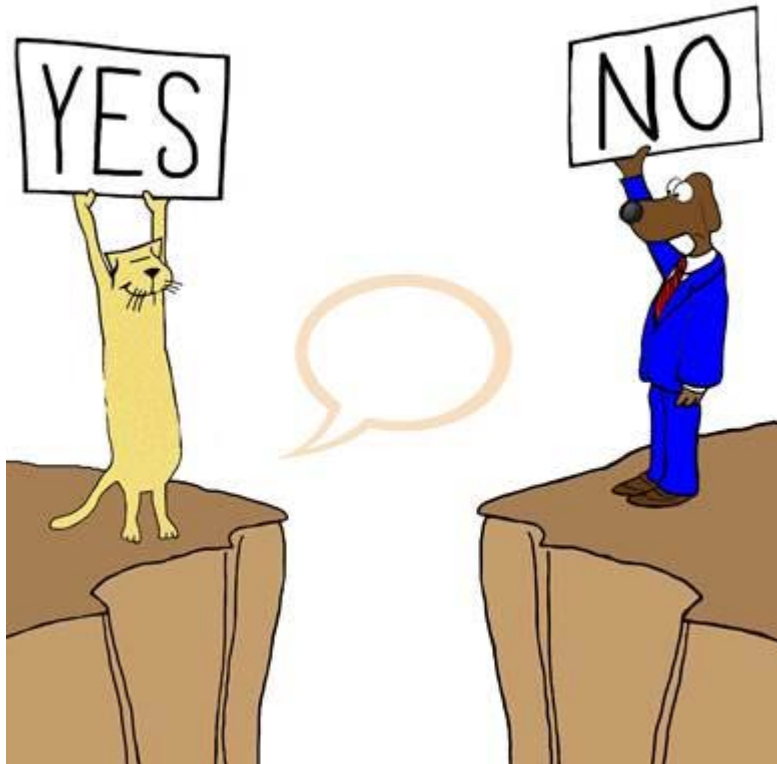
<Social X History X Geography>

# Activity 2

Tourism Development

VS

Conservation of World Heritage



# Activity 2

Divide into groups based on your assigned roles. Start group discussion and suggest solutions for improvement.



Role 1

Scholar



Role 2

Citizen



Role 3

Officer of Macau  
Government Tourism  
Office

Following the success in the recognition as world heritage, the government only emphasizes on the tourism development and economy, while ignoring the heritage conservation

Our daily life is largely affected due to the escalating amount of tourists. Rising cost of living and aggravating traffic jam have further burdened our life

We intend to develop Macau into an international tourism city !



# Activity 2

Divide into groups according to your assigned roles. Start group discussion and suggest solutions for improvement.



Role 4

Tourism Industry

The historic centre of Macau has brought us numerous business opportunities. Government should construct more tourism infrastructure e.g. hotels in order to attract more tourists !



Role 5

Environmental groups

Macau has been carrying out reclamation recently for constructing tourism infrastructure and lessening living problem. However, the amount of tourists is soaring which has overburdened on the natural environment, the destructed natural environment could not be further carried out environmental restoration and remediation.

# Reflection

- what kinds of problems is Macau's world heritage facing?
- How to coordinate between world heritage conservation and tourism as well as economic development ?
- How to conserve Macau's unique world heritage ?
- How to bring about sustainable social and cultural development to Macau?
- How would you design learning activities in relation to the above-mentioned questions in your teaching curriculum ?



# [Social X History X Geography] Inquiry

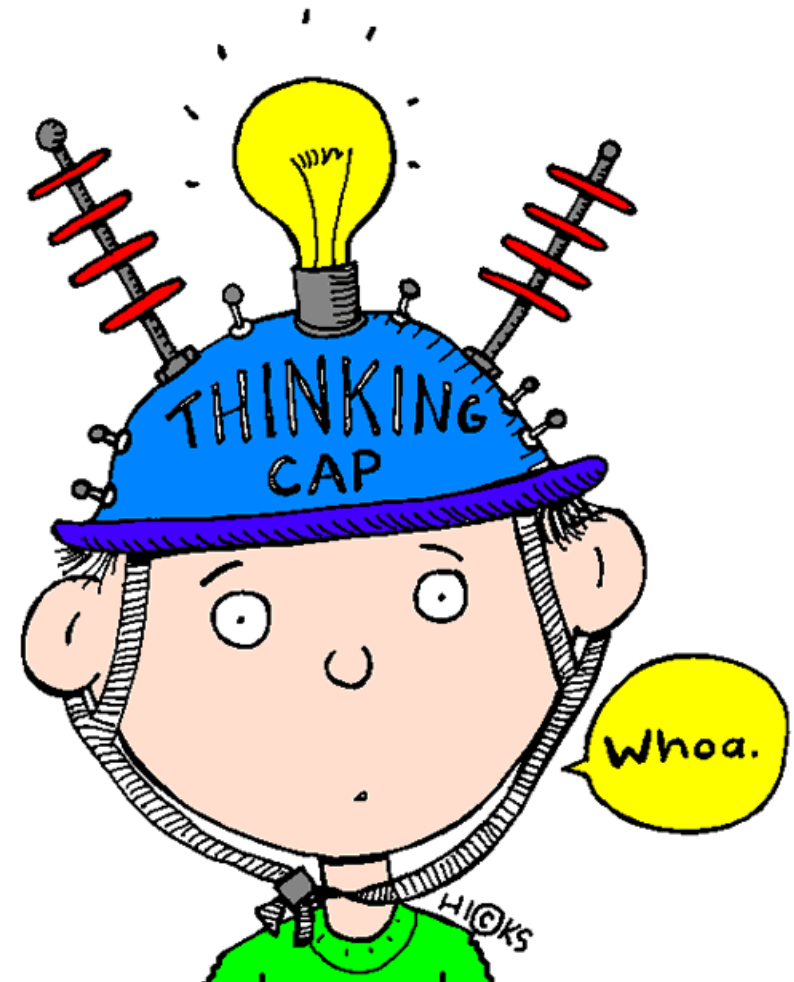
## Use 「Conservation of Macau World Heritage」 as topic.....

- A-4-14** To understand the development history of Macau's transfer of sovereignty through reading historic materials, and to strengthen the sentiment of loving the motherland and loving Macau
- B-1-7** Able to read graph and indicate the increment process of Macau's land area, as well as to relate it with Macau's social development
- C-2-1** To understand the spread and development of world religious, and to respect and tolerant different religious.
- C-2-4** Able to describe briefly the development of Catholicism in Macau, and understand the role of Catholicism in Macau.
- C-4-9** Through studying materials, able to tell the characteristics of Macau world heritage and suggest how to conserve the Historic centre of Macau, as well as to bear the civic responsibility of conserving heritage.
- D-1-5** Able to use a region as example to explain the economic and environmental impacts of the development of tourism resources.
- D-1-6** Able to indicate conditions of a city which could influence the development of business centre.
- D-1-8** Able to use a region as example to explain how the transportation could influence economic development.
- D-1-9** Use a country/region as example, to indicate the distribution features and development of its natural resources, and to cite examples for explaining the relationship between resources and economy.
- D-2-2** Able to indicate the forming conditions of city functions.
- D-2-3** Able to use Macau as example to discuss the problems caused during the process of urbanization.
- D-2-4** Able to indicate the development and locational advantages of Macau in the area of transportation, economy and tourism.
- D-3-2** Indicate the conditions for sustainable development in Macau, and concern its situation of sustainable development.



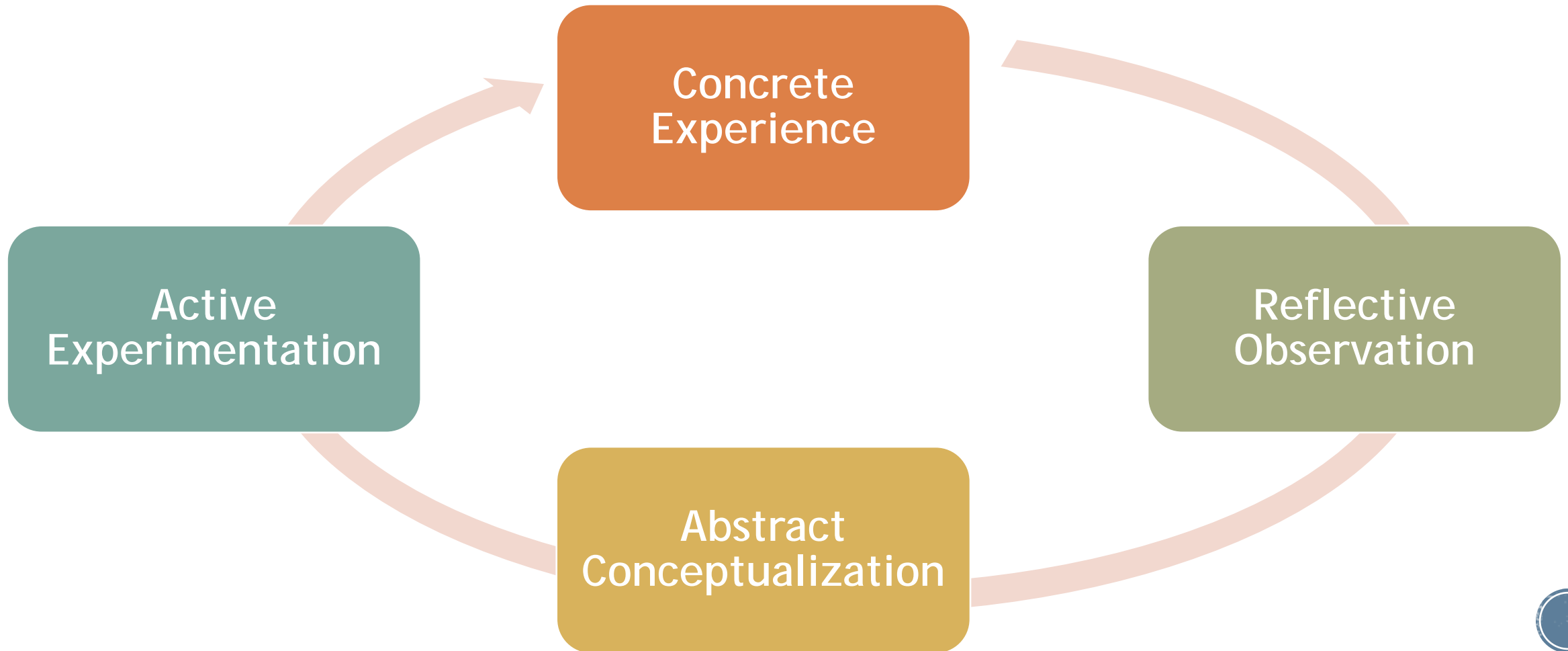
# Think about....

Any related inquiry learning strategies?  
What is the function for stimulating learning motives ?



# Inquiry Learning Strategies

## 1. Experiential Learning



# Experiential Learning Features



## □ Society as medium:

- Making learning more **self-directed**
- Encourage learners to **present personal response**. Learner's own motivation and effort are just as important, if not more central, to a student's education than the content or facts learned

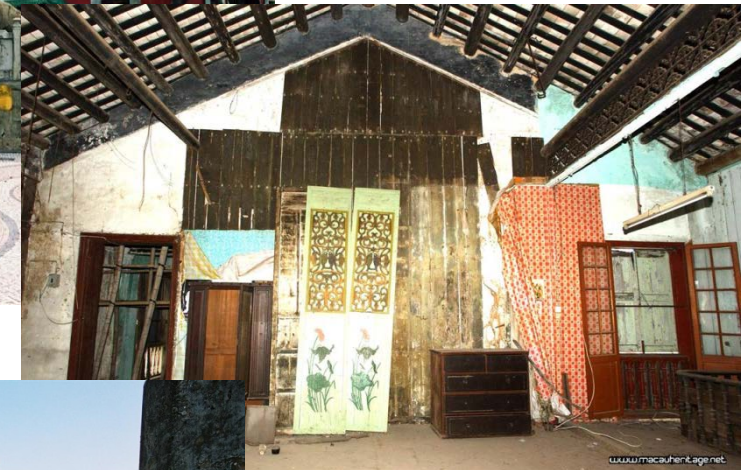
## □ Creating a learning environment so that students:

- ❖ Identify their own issues and problems to be solved rather than having questions defined for them
- ❖ Decide **how** to explore an issue or solve a problem rather than having these procedures defined by the teacher
- ❖ **Reflect** further and makes sense of what they have experienced
- ❖ Interact with peers by presenting their solutions, describing **how solutions were reached**, and receiving feedback



# If you have to organize a history field-based study....

- Materials / Resources ?
- Situation ?
- Purpose / Target ?
- Students 'missions?
- Preparation ?
- Venue and related organizations?
- Reflection?



# 2. Cooperative Learning

Johnson & Johnson (1987): 4F= Four stages of developing skills



# 2. Cooperative Learning

Activities:

Concept  
Map

Jigsaw II

Group  
Presentation

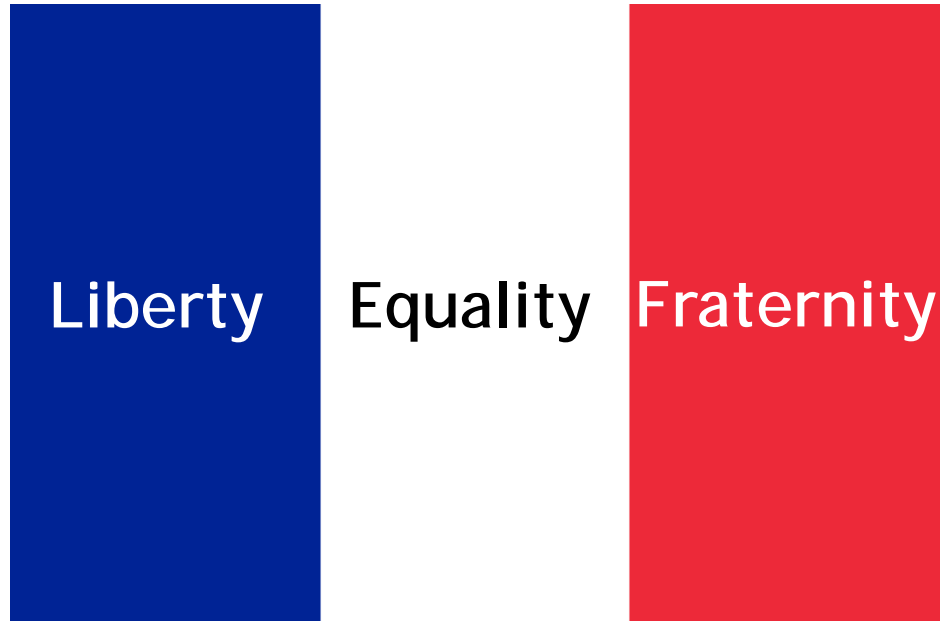
Study  
Corner



# Activity 3

## The Pursuit of Freedom ?

Do you know  
what the  
three color  
represent ?



Flag of France

Can you image what will  
you become when your life  
and freedom are not  
controlled by yourself ?



# Divide into groups and discuss



- [Case Study: French Revolution \(1789-1799\)](#)
- Watch the video and answer the following questions:
- Recap of French Revolution:
- [https://www.youtube.com/watch?feature=player\\_embedded&v=wXsZbkt0yqo](https://www.youtube.com/watch?feature=player_embedded&v=wXsZbkt0yqo)
- The French Revolution ("Bad Romance" by Lady Gaga)
- Discuss:
  1. How would you imagine the life of upper and lower class ?
  2. How much did it tell us about the class system before 1789 in France ?
  3. Where did the poor people's money go?
  4. What did this situation tell about the period of 1780s ?





# Before the Revolution...

How would you describe the French society at that time?



	Life
First Estate ???	???
Second Estate ???	???
Third Estate ???	???



# Will you join the revolution ?

- Suppose you lived in 1789 and was a farmer in France. One day, one of your friends, Patrick, lobbied you to participate in the revolution with him, but another friend, Anthony, strongly opposed it. Here are their advice to you:

You should not join the revolution. It is extremely dangerous to oppose the Royal government. It is too naive to think that French society will mutate after the revolution ! Just think about it. If the revolution fails, you may be killed or forced to flee overseas. Do think about your family ! If you do this, you may get your family in trouble. They may be tortured or in jail. Do not make stupid decisions, be a good citizen and obey to the government !

Anthony



The country is unbearable. We must launch a revolution to overthrow the Royal government and fight for our right and freedom. If you can join the revolution, we still have hope and faith for our country. You can also improve your life and end the social inequality. Almost all the civilians have been participating in the revolution. If you do not participate, your miserable life will continue, you may also be harmed by the revolutionaries. Let join the revolution together !!

Patrick



- Consider the advice of Anthony and Patrick carefully. Group in pair and interview your partner. Analyze the advantages and disadvantages of supporting/opposing the participation in the revolution. Write down your decision and reasons.

Support	Advantages	???
		???
	Disadvantages	???
		???
Oppose	Advantages	???
		???
	Disadvantages	???
		???

Would you participate in the revolution ?



The French National Assembly was established and announced the "Declaration of the Rights of Man and of the Citizen." The following figure is an excerpt from the 17 articles in the Declaration.

## United Nations

### The Universal Declaration of Human Rights

(Excerpt)

- All human beings are born free and equal in dignity and rights.
- Everyone has the right to life, liberty and security of person.
- The will of the people shall be the basis of the authority of government
- All are equal before the law and are entitled without any discrimination to equal protection of the law.
- No one shall be subjected to arbitrary arrest, detention or exile.
- Everyone has the right to freedom of thought, conscience and religion; this right includes freedom to change his religion or belief, and freedom, either alone or in community with others and in public or private, to manifest his religion or belief in teaching, practice, worship and observance.
- Everyone has the right to freedom of opinion and expression; this right includes freedom to hold opinions without interference and to seek, receive and impart information and ideas through any media and regardless of frontiers.
- Everyone has the right to seek and to enjoy in other countries asylum from persecution.
- Everyone has the right to own property alone as well as in association with others.No one shall be arbitrarily deprived of his property.

Article I - Men are born and remain free and equal in rights. Social distinctions can be founded only on the common good.

Article II - The goal of any political association is the conservation of the natural and imprescriptible rights of man. These rights are liberty, property, safety and resistance against oppression.

Article III - The principle of any sovereignty resides essentially in the Nation. No body, no individual can exert authority which does not emanate expressly from it.

Article VI - The law is the expression of the general will. All the citizens have the right of contributing personally or through their representatives to its formation. It must be the same for all, either that it protects, or that it punishes. All the citizens, being equal in its eyes, are equally admissible to all public dignities, places, and employments, according to their capacity and without distinction other than that of their virtues and of their talents.

Article XI - The free communication of thoughts and of opinions is one of the most precious rights of man: any citizen thus may speak, write, print freely, except to respond to the abuse of this liberty, in the cases determined by the law.

Article XIV - Each citizen has the right to ascertain, by himself or through his representatives, the need for a public tax, to consent to it freely, to know the uses to which it is put, and of determining the proportion, basis, collection, and duration.



Declaration of the Rights of Man and of the Citizen (August 1789)

Discuss the following questions in the groups and present your view.

▪ Questions:

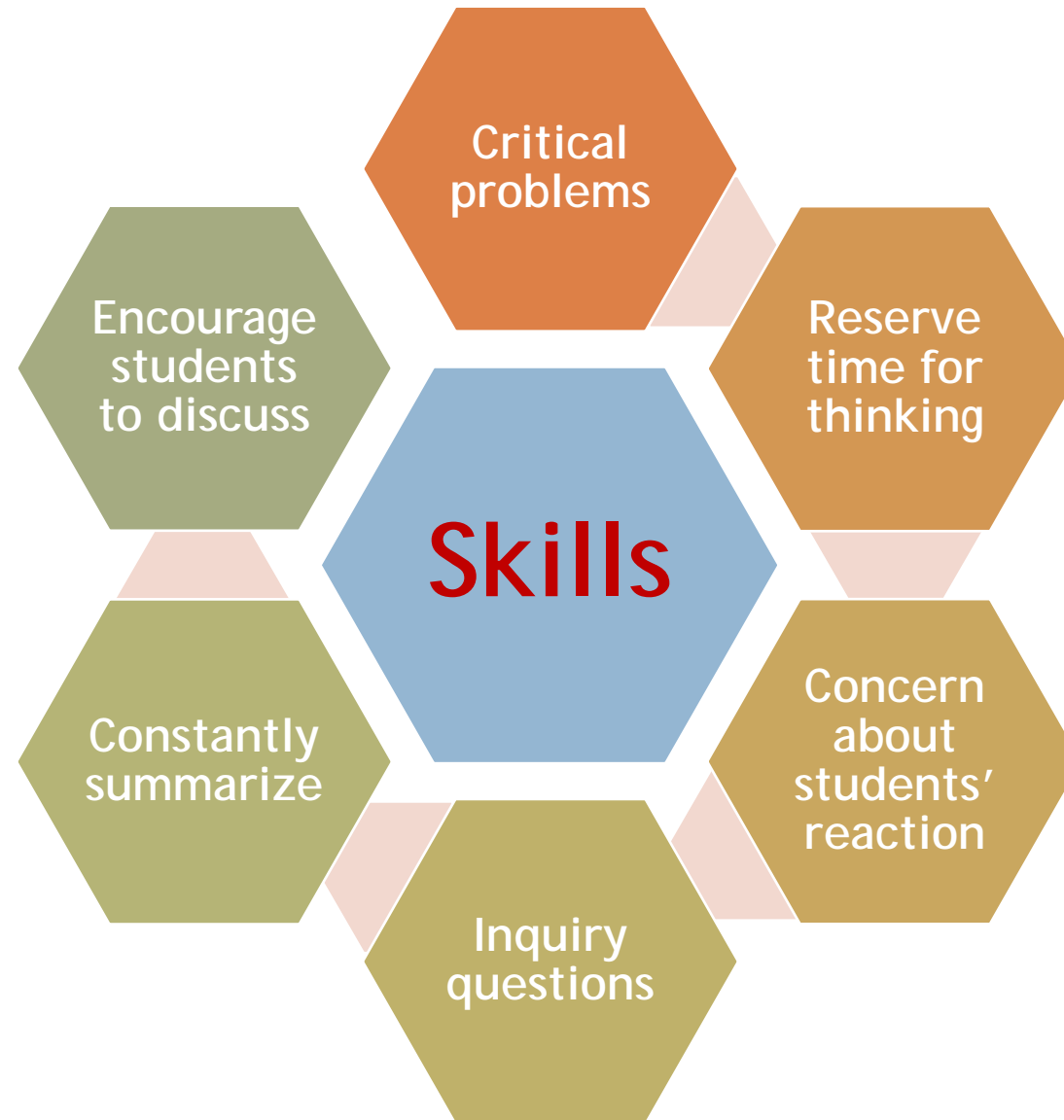
1. According to both the 1789 and the UN Declaration , please illustrate the basic spirit of both the French “Declaration of the Rights of Man and of the Citizen” and the United Nations “The Universal Declaration of Human Rights”
  - E.g. Rights/Freedom/Obligations....
2. The 1789 “Declaration of the Rights of Man and of the Citizen” has ensured the citizens’ rights of freedom and equality, and has promoted the development and emergency of democracy. Please illustrate two examples from your daily life.



# Roles

Teacher's Role	Student's Role
<ul style="list-style-type: none"><li>• Design and conduct some ice-breaking/class activities before the practice of cooperative learning → Let students have basic understanding with each other</li></ul>	<ul style="list-style-type: none"><li>• Learn to help each other in groups</li></ul>
<ul style="list-style-type: none"><li>• Should teach students about the social skills needed for cooperation</li></ul>	<ul style="list-style-type: none"><li>• Learn to develop mutual trust, tolerance and respect to each member</li></ul>
<ul style="list-style-type: none"><li>• Should not intervene students' discussion</li></ul>	<ul style="list-style-type: none"><li>• Learn to be thankful for others' help</li></ul>
<ul style="list-style-type: none"><li>• Should supervise students' learning progress and steps</li><li>• E.g. Knowledge/Social Skills</li></ul>	
<ul style="list-style-type: none"><li>• Develop awards system to encourage cooperation learning</li></ul>	

# 3. Socratic questioning



# 3. Socratic questioning

Question type	Example
Clarification questions	<ul style="list-style-type: none"><li>▪ Could you put that another way ?</li><li>▪ Could you expand upon that point further ?</li></ul>
Questions about an initial question or issue	<ul style="list-style-type: none"><li>▪ Why is this question important ?</li><li>▪ What assumptions can we make based on this question ?</li></ul>
Assumption questions	<ul style="list-style-type: none"><li>▪ Why would someone make this assumption ?</li><li>▪ What could we assume instead ?</li></ul>
Reason and evidence questions	<ul style="list-style-type: none"><li>▪ Could you explain your reason to us ?</li><li>▪ Is there reason to doubt that evidence ?</li></ul>
Origin/Source questions	<ul style="list-style-type: none"><li>▪ Where did you get that idea ?</li><li>▪ Has your opinion been influenced by something or someone ?</li></ul>
Implication and consequence questions	<ul style="list-style-type: none"><li>▪ What effect would that have ?</li><li>▪ What is an alternative ?</li></ul>
Viewpoint questions	<ul style="list-style-type: none"><li>▪ How would other groups of people respond this question ?Why ?</li><li>▪ What might someone who believed _____ think ?</li></ul>





# 4. Project Learning

- Learners plan, study, research, analyze and decide in a certain period
- Inspire learners to inquire the core idea and critical problems of an issue deeply
- Integrate learners' knowledge, ability, value and attitude
- Use diversified learning materials and learning experience to build knowledge

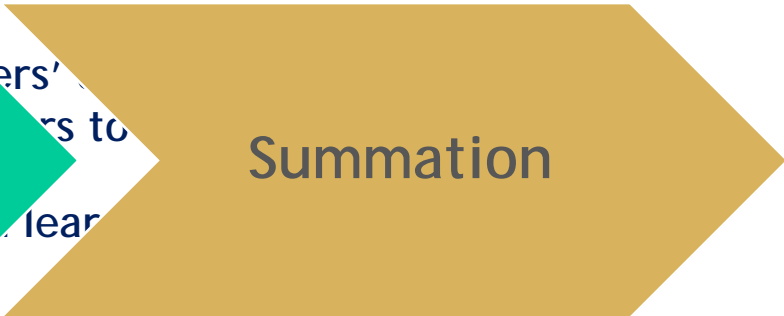
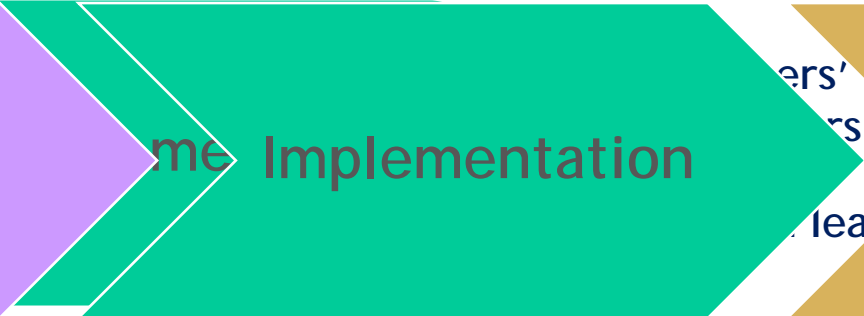
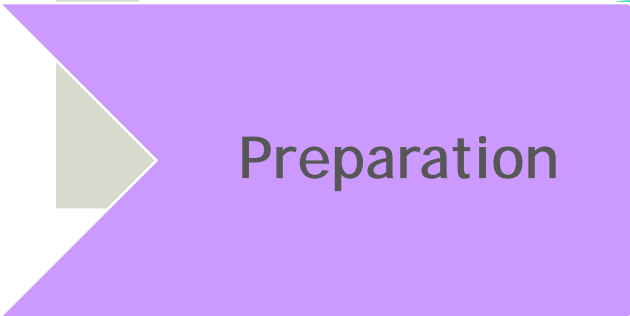


# Teachers' role



Preparation

- Design a topic
- Develop learning assessment
- Set up criteria for assessment
- Participate in research



Summation

- Assist learners in presentation
- Share explanations

# Students' role



Preparation

- Pose questions and construct assumptions
- Research

Preparation

Implementation

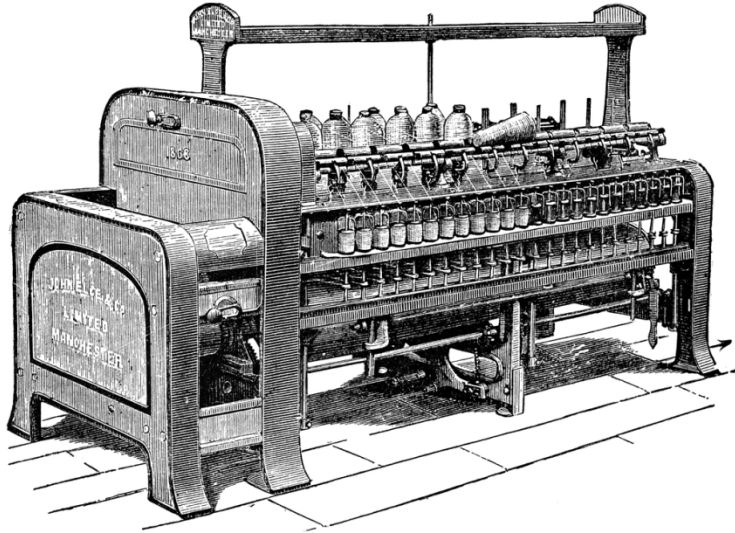
Summation



Summation

- Report results
- Reflect

# Industrial Revolution



# Industrial Revolution

## 1. Preparation

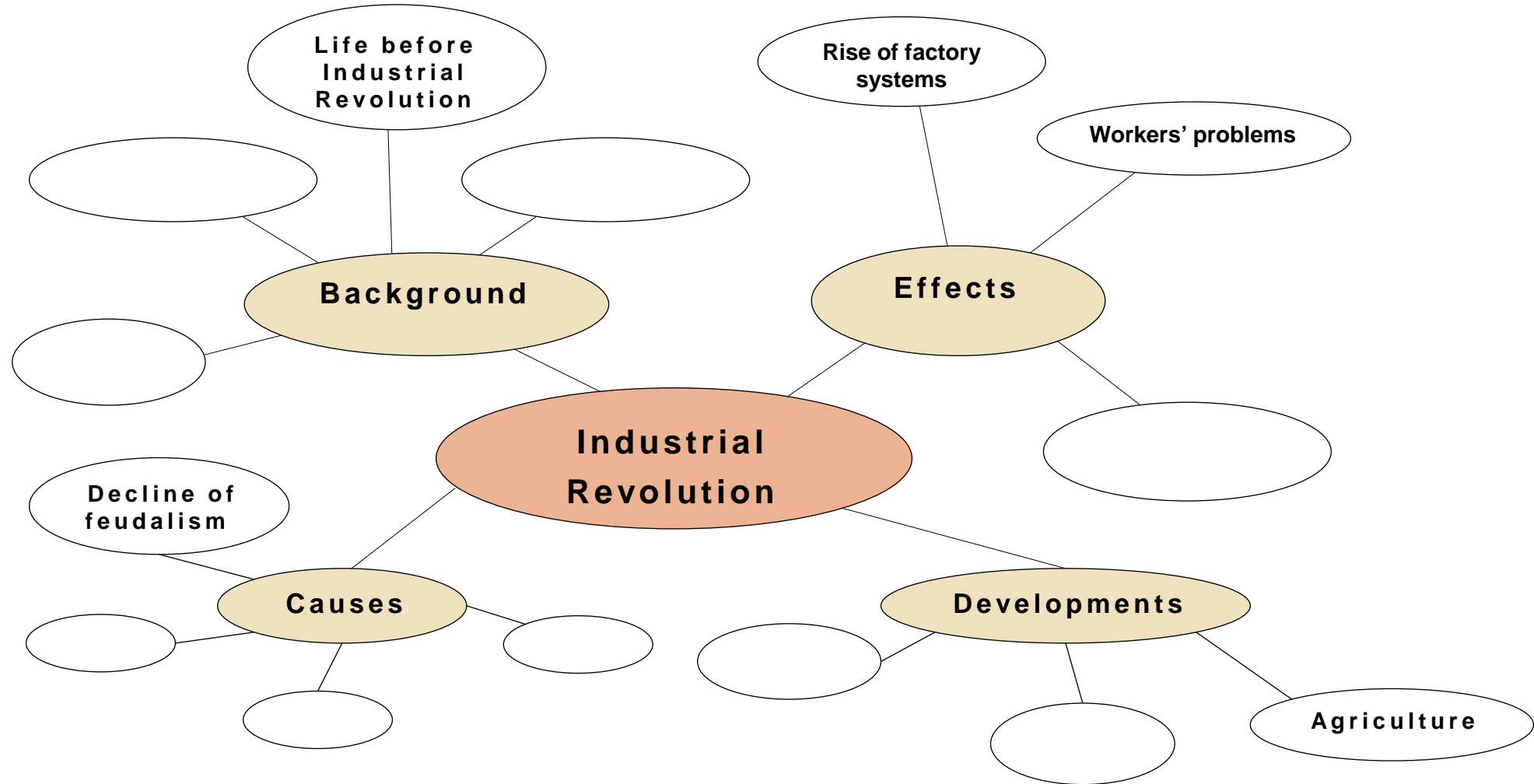
- Students are divided into groups, use “Industrial Revolution” as the main theme and design a topic which they are interested for the project
- Teachers could guide the students by using “**The Six Ws**” to decide the topic and content of the project:

<b>What</b>	What was Industrial Revolution ? What was life before Industrial Revolution ?
<b>Why</b>	What was the causes of the Industrial Revolution ?
<b>When</b>	When did the Industrial Revolution happen ?
<b>Who</b>	Who /Which countries were involved in the Industrial Revolution ?
<b>Where</b>	Where did the Industrial Revolution start ?
<b>How</b>	How the Industrial Revolution affected the life of human beings ?



# Brainstorming...

## Concept Map



## 2. Implementation

- Research



- E.g. Documentary about the impact of industrial revolution
  - War and Civilization: Blood and Iron
  - <https://www.youtube.com/watch?v=0emxRPMEpIM>
- E.g. Film about Industrial revolution:
  - Modern Times
  - [https://www.youtube.com/watch?v=i9\\_g-NK7uWQ](https://www.youtube.com/watch?v=i9_g-NK7uWQ)
- Organize and analyze data

## 3. Summation

- Report and presentation
- Self-assessment/Feedback from other groups



# Purpose of Project Learning

## Teachers

- Reference for class promotion and adjustment of teaching
- Reference for new teachers
- Provide qualitative assessment
- Strengthen and take care of individual difference in order to supervise students to grow on knowledge, skills and attitude
- To interpret and decide students' ability
- Portfolio Examination

## Learners

- Record of growth and achievement
- Encourage students to appreciate others' work
- Enhance students' ability of self-reflection
- Set goals, organization and filtering skills
- Nurture awareness of self-responsibility
- Career guidance



Experience more,  
discuss more,  
reflect more,  
think more?

Listen more,  
practise more?

Which approach do you think is  
more conducive to learning?  
Which can stimulate more  
students' active involvement?



## Affection

- Feeling=>Thinking

## Cognition

- Clarify + Confirm

## Practice

- Assist students to make decision



**To help students become .....**

50

# Summary

What did you learn today ?

Are there any new insights ?

Is there any teaching practice which you do not try before ?

How will you plan and improve your future lessons ?

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