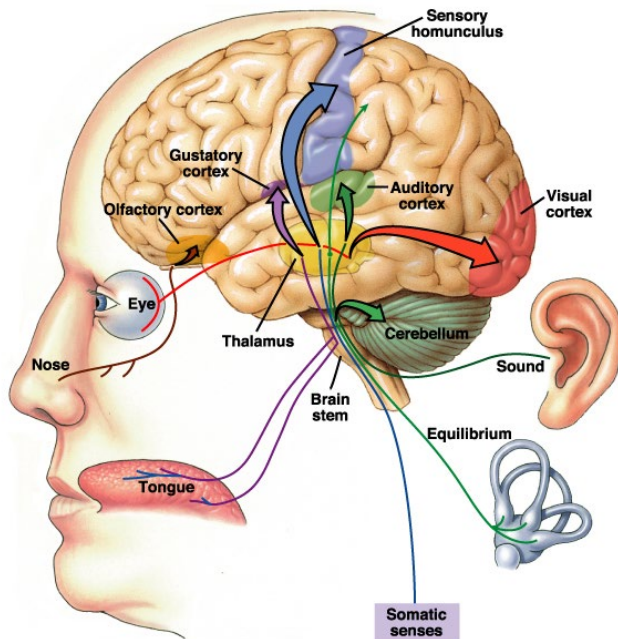




# Preparing Teaching Media

MUADP-4 Level 1 (2024)



**Assoc.Prof.Dr. Chailerd Pichitpornchai**

MD, PhD

Director, Institute for Innovative Learning

<https://il.mahidol.ac.th>



## [P1] Identify problems

1. Think of one subtopic that you used to teach (in 5-10 minutes) and the students find it is hard to understand



## [P2] Analyze the problem

From the previous question...

1. What is the **objective**?
2. What is the **learning process** that you use?
3. What is the **teaching media** that you use?
4. What is(are) the cause of difficulty of learning?



## [P3] How to design your teaching media

- What is How to solve or design the teaching media?



# Objectives:

R1 System Concept & Physiology of Learning

R2 Education Concept & Revised Bloom's Taxonomy

R3 Teaching & Learning Components

R4 Learning through Sensory Perceptions

**1. Visualization**

**2. Presentation Concepts**

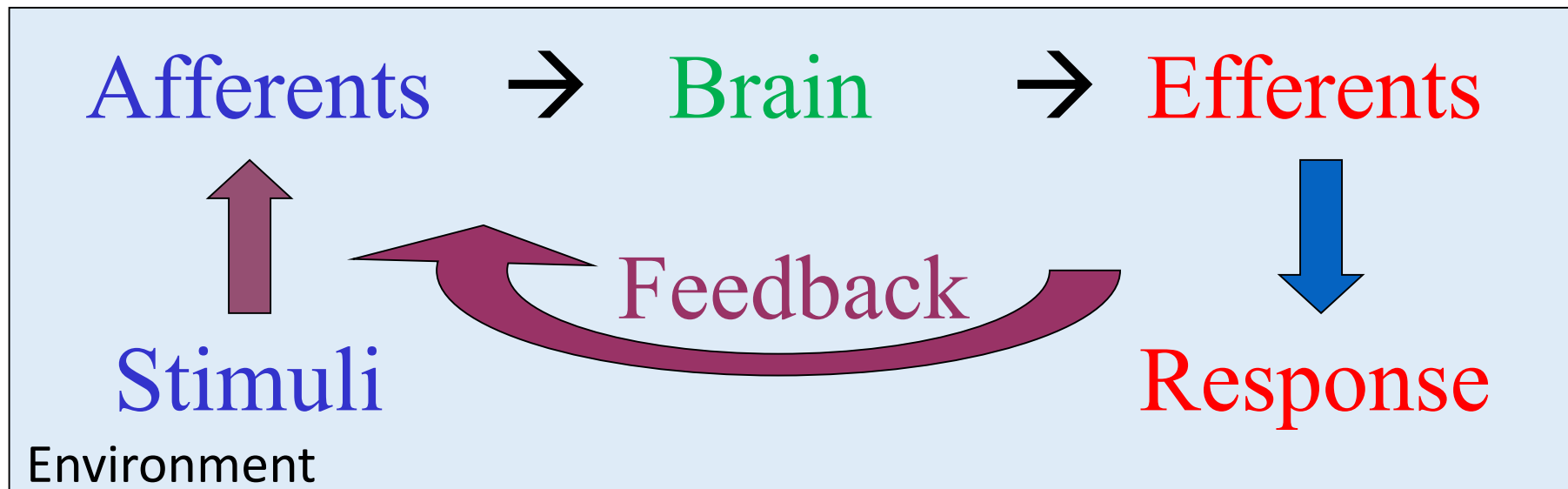
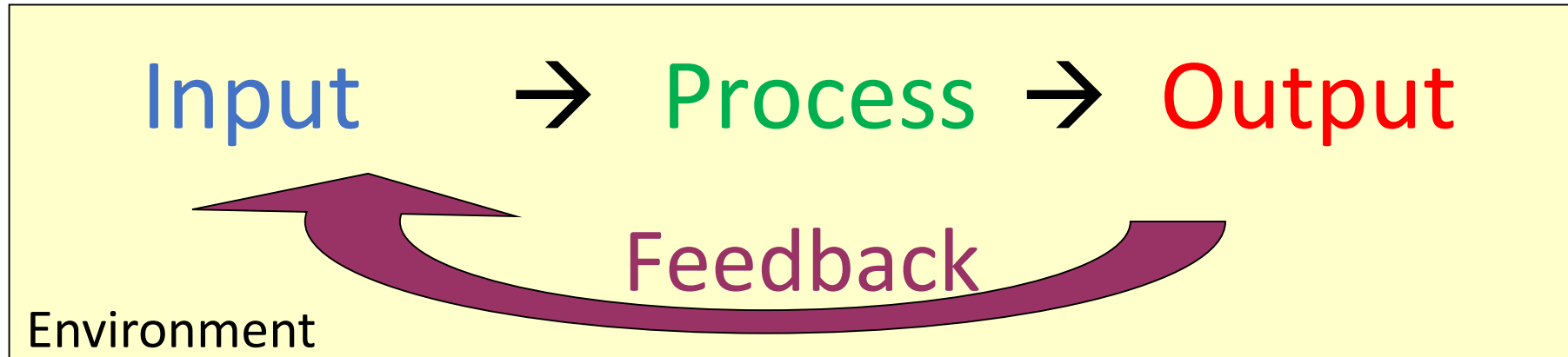
**3. Create Interesting Teaching Media**

**4. Tools for Creating Teaching Media**

**- ChatGPT, Gemini, Dall-E 3, InVideo, Suno**

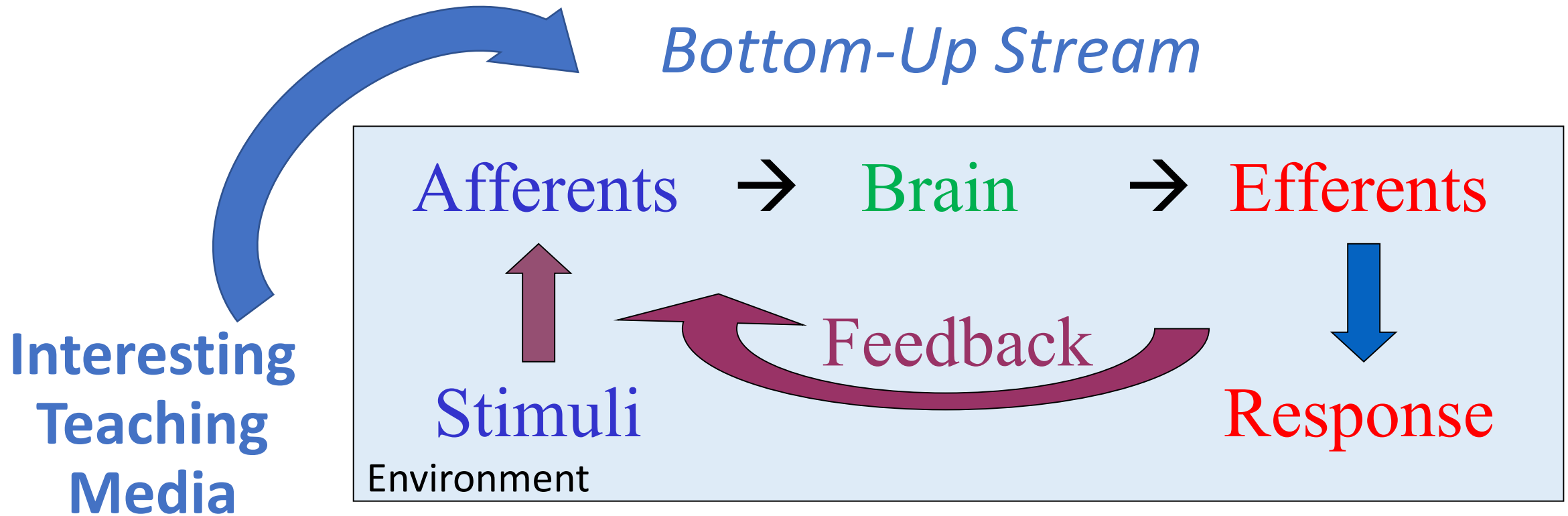


# R1 System Concept & Physiology of Learning



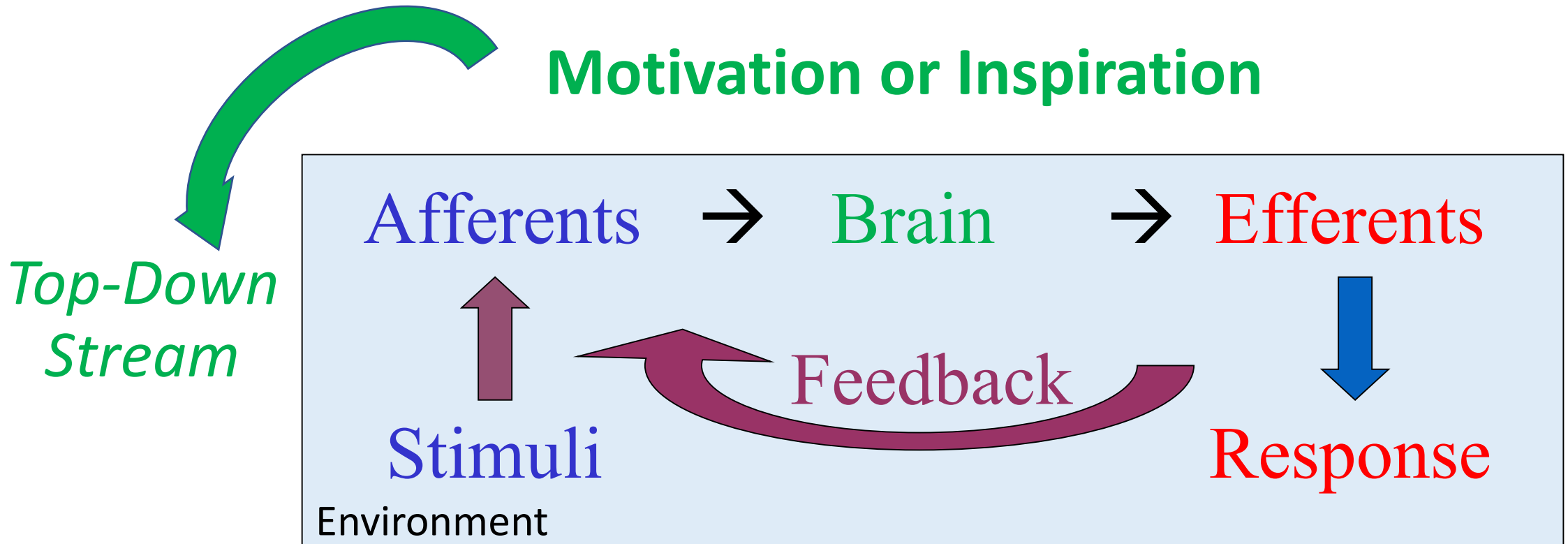


# R1 System Concept & Physiology of Learning





# R1 System Concept & Physiology of Learning







# BBM

# Brain & Mind

- *Emotion*
- *Feeling*

**INPUT**

**PROCESS**

**OUTPUT**

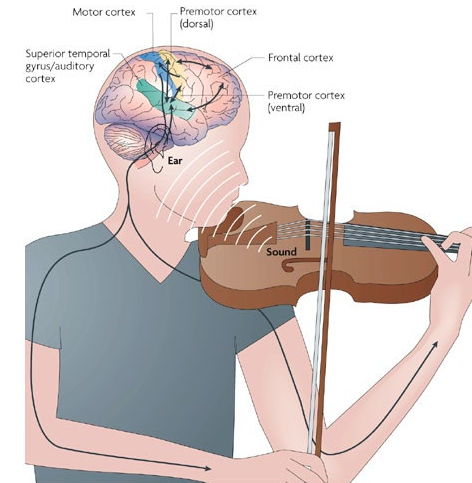
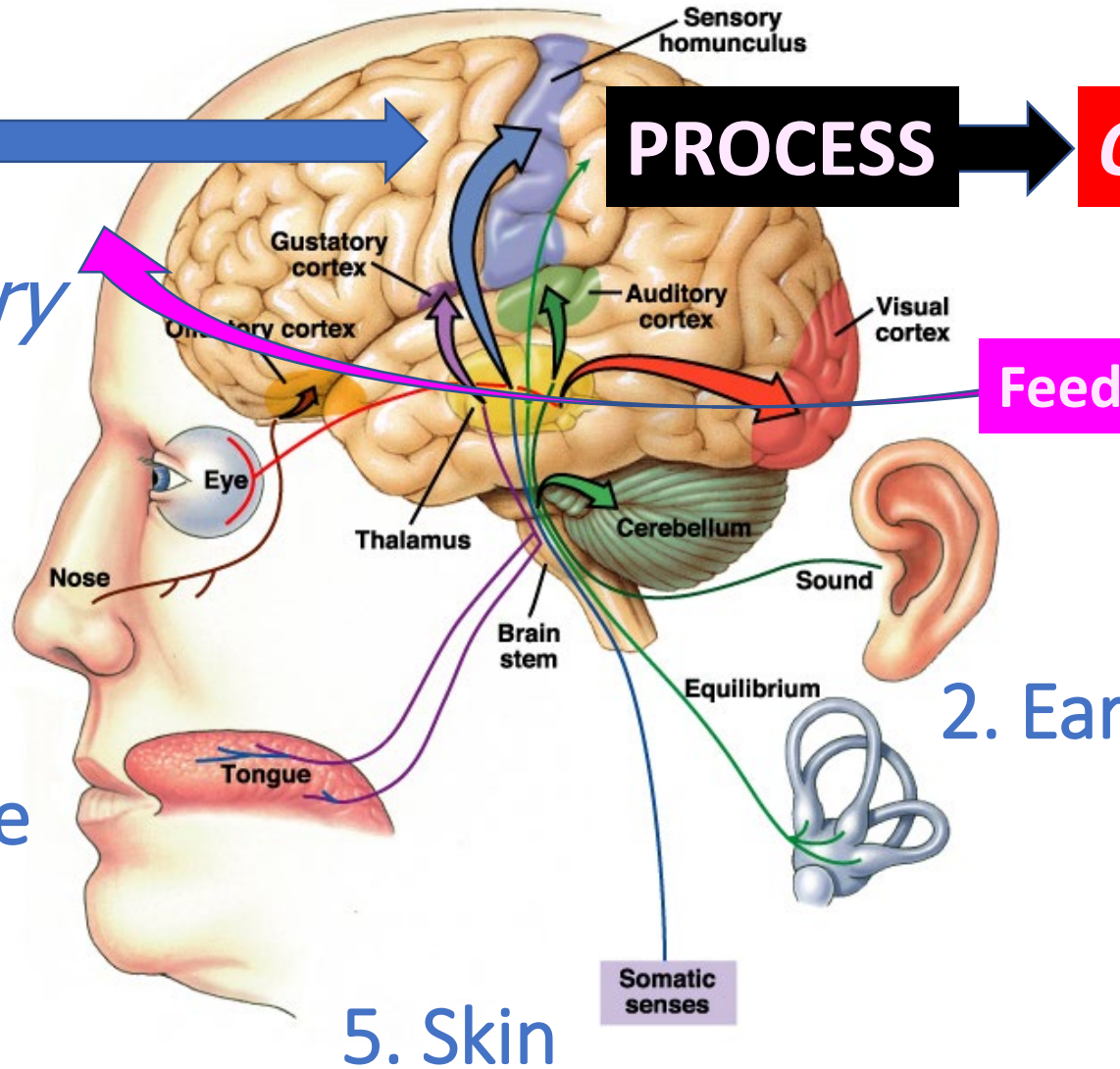
*Body-Sensory*

- *Learning*
- *Memory*
- *Thinking*

**Feedback**

*Body-Motor Learning & Behavior*

1. Eye
3. Nose
4. Tongue



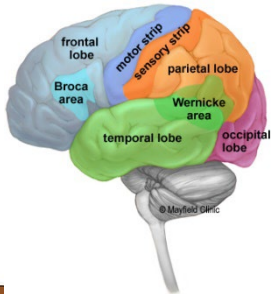


## R2. Education Concept & Revised Bloom's Taxonomy

1. **O**bjective: **L**earning **O**utcome
2. **L**earning Process: Teaching & Learning
3. **E**valuation: Formative, Summative

### Revised Bloom's Taxonomy: 3 Domains

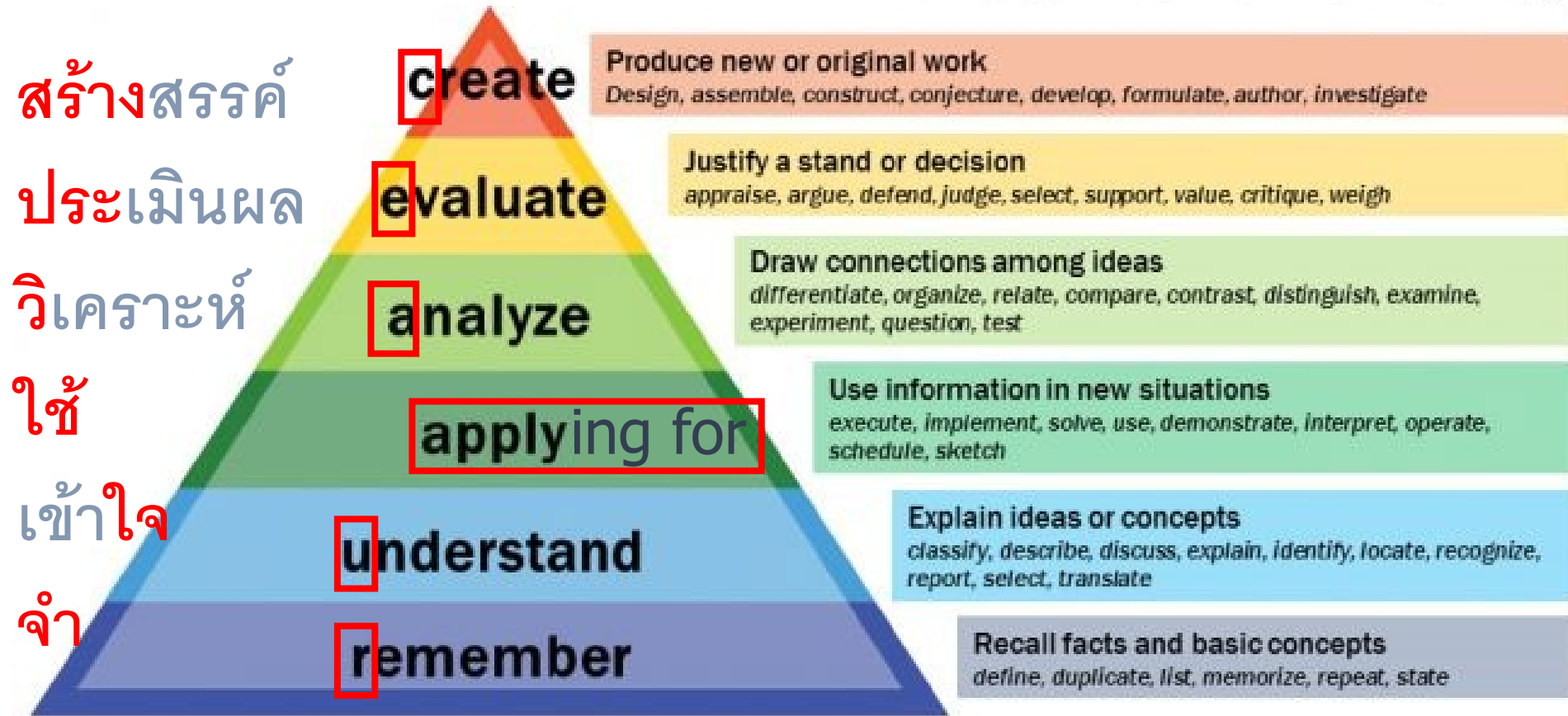
1. **C**ognitive Domain (**K**nowledge) : Head
2. **P**sychomotor Domain (**S**kill) : Hand
3. **A**ffective Domain (**A**ttitude) : Heart





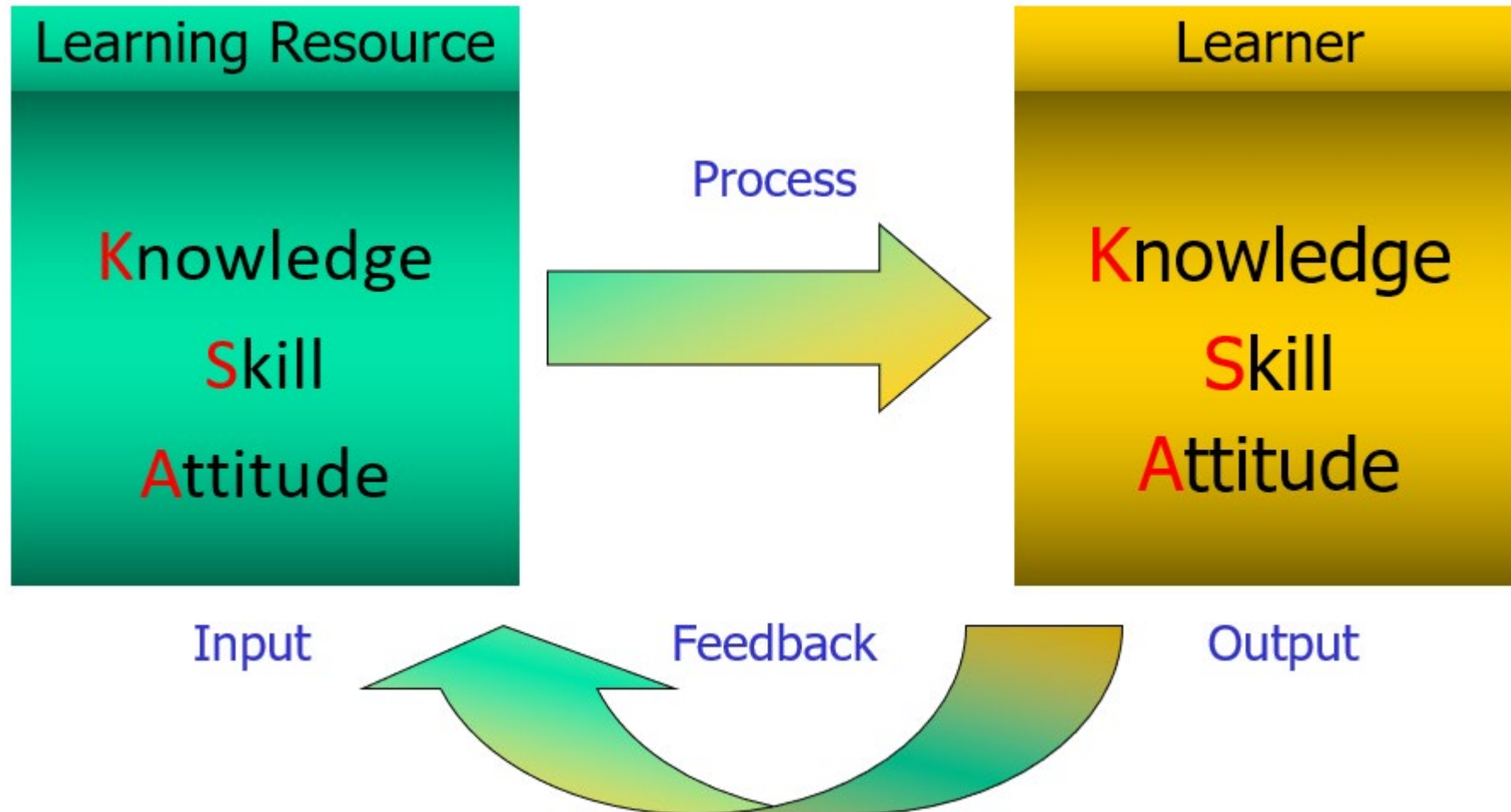
# Cognitive Domain

## Bloom's Taxonomy





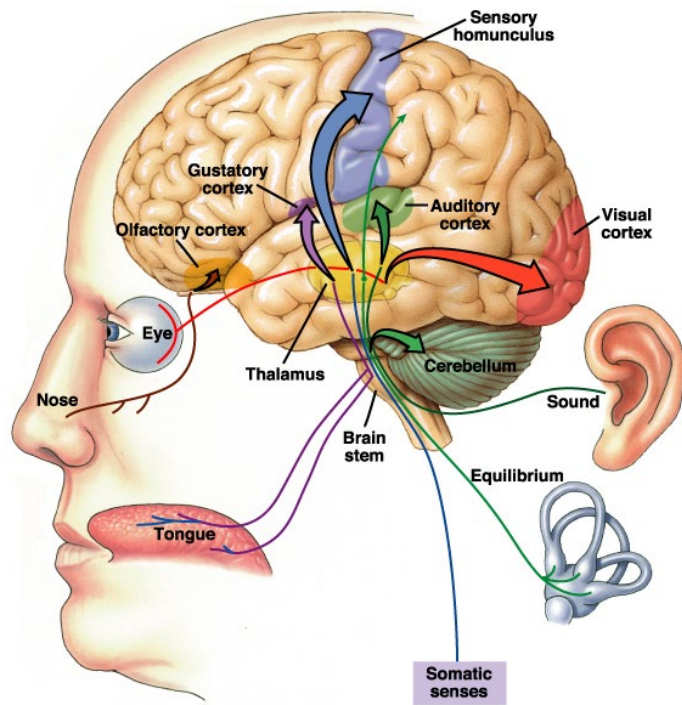
# R3. Teaching & Learning Components





## R4. Learning through Sensory Perceptions

- Chinese → A picture is worth ten thousand words



- Learning by
  - **Vision** 70-90%
  - **Hearing** 5-25%
  - Other senses 5-10%

→ **Visualization** & **Audification**



# 1. Visualization

- Basic Visual Effect
- Space
  - Size: too large / **too small**
  - Dimension: 2D, 3D
- Time: Motion: **too fast** / too slow
- **Invisible** object → visible
- Low contrast / B&W → colorized
- Abstract issue → concrete or visible



# *1.1 Basic Visual Effect*

shape

Color

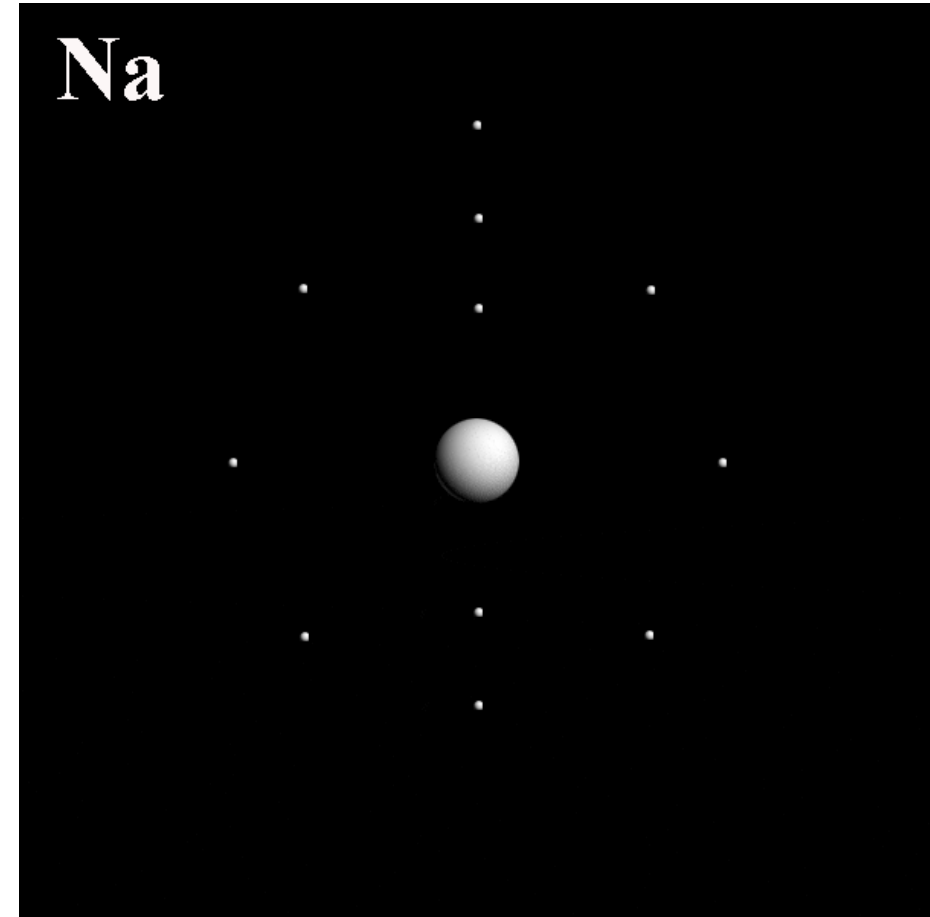
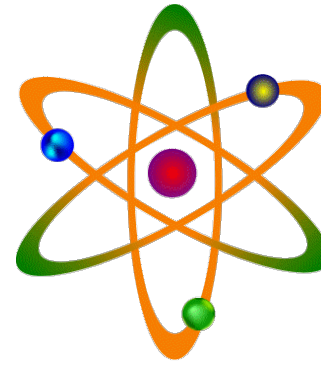
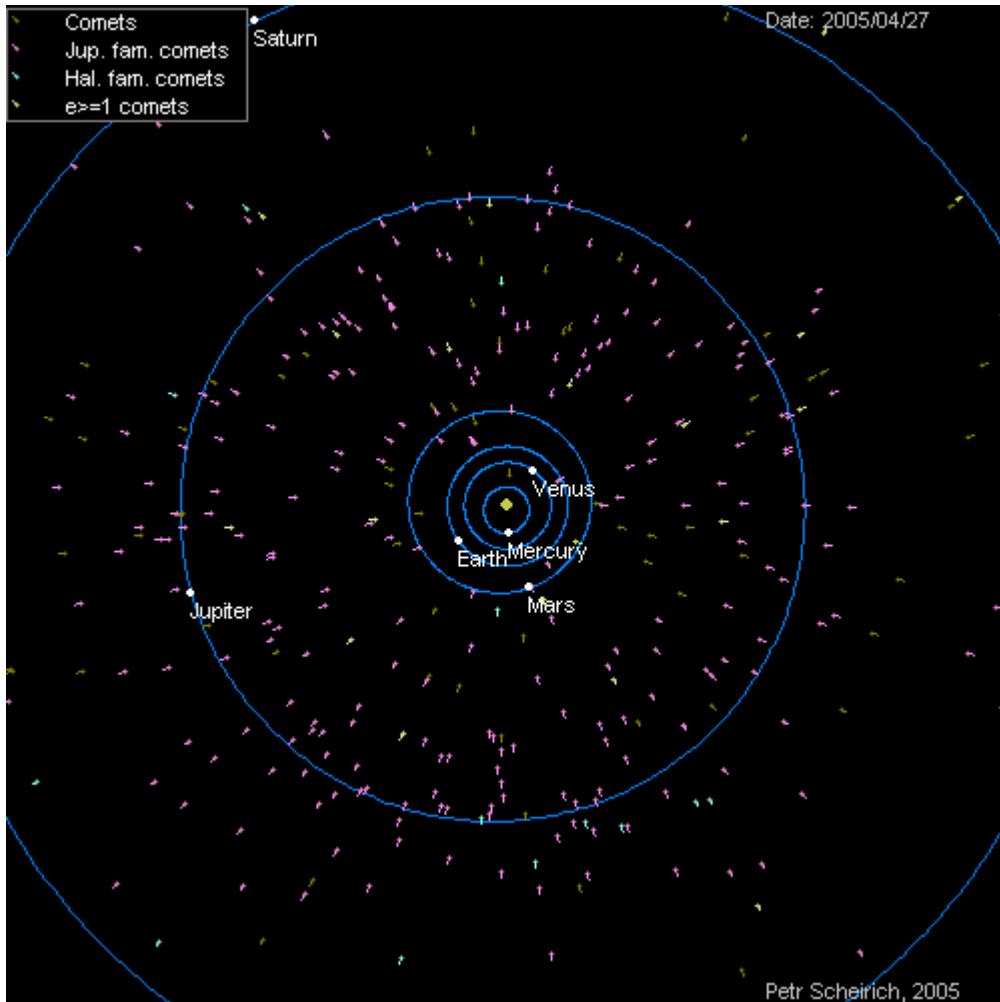
Dimension

SIZE

Motion



# 1.2 Space – too big or too small



<http://sajri.astronomy.cz/asteroidgroups/inn-com-an.gif>

<http://www.micromountain.com/assets/sodimanim.gif>





## *1.3 Time or Motion – too fast*



<https://youtube.com/watch?v=mKXtVQnqhB4&feature=shares>



## *1.4 Time or Motion – too slow*



<https://youtube.com/watch?v=PVfeQapGrzM&feature=shares>



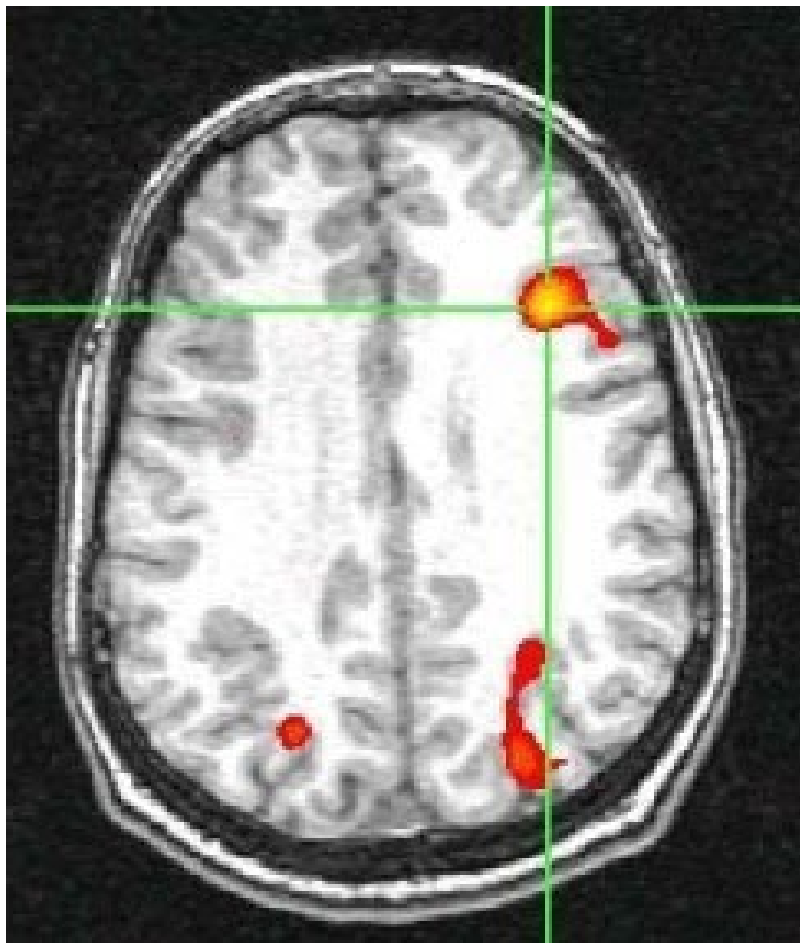
## *1.5 Invisible Object → Visible*



<https://www.youtube.com/watch?v=BEWjOCVEN7M>



# *1.6 Low contrast, B&W → Colorized*





# *1.7 Abstract issue → concrete or visible*



**Good vs Evil**

<https://www.quora.com/What-is-the-concept-of-good-and-evil-Do-they-really-exist>



## *Visual Media*

- Text
- Graphics: Picture, drawing, diagram, mind map, graph
- Animation / Simulation
- Video Clip
- Virtual Reality, Augmented Reality, MR



## 2. Presentation Concept

- Content: Concise, Relevant, Attractive
- Story Telling **Visualization \*\***
- Z-design
- Appropriate Cognitive Load
- Create Interesting Teaching Media



## *2.1 Story Telling*


- **Voice: Rhythm, Mood & Tone**
- **Flow of Idea**
  - Logical Sequence or Cause & Effect
  - Chronological Sequence
  - Basic to Advance
- Result in mental picture or visual thinking
- Change learners' thinking & belief





## 2.2 Z-Design

| ENG | 中文

 มหาวิทยาลัยมหิดล  
สถาบันนวัตกรรมการเรียนรู้

🏠 รู้จักเรา ▾ การศึกษา ▾ งานวิจัย ▾ บริการวิชาการ ▾ ผลิตภัณฑ์ ▾ จุลสารนวัตกรรม ▾ E-Media ▾ I-Learning Clinic ▾ กิจกรรม/เหตุการณ์ ▾ ติดต่อเรา 🔍

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ข่าวกิจกรรม

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Journal of II

หลักสูตรปริญญาโท

หลักสูตรปริญญาเอก



## *2.2 Cognitive Load*

- The used amount of working memory resources
- Types of Cognitive Load
  1. Intrinsic
  2. Germane
  3. Extraneous



# Classification of Autonomic Nervous System

## *1. Intrinsic*

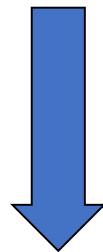
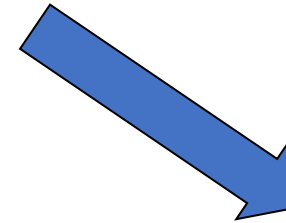
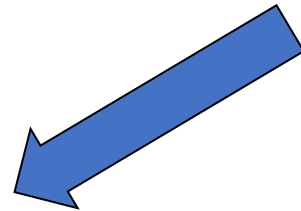
ANS

Parasympathetic

Sympathetic

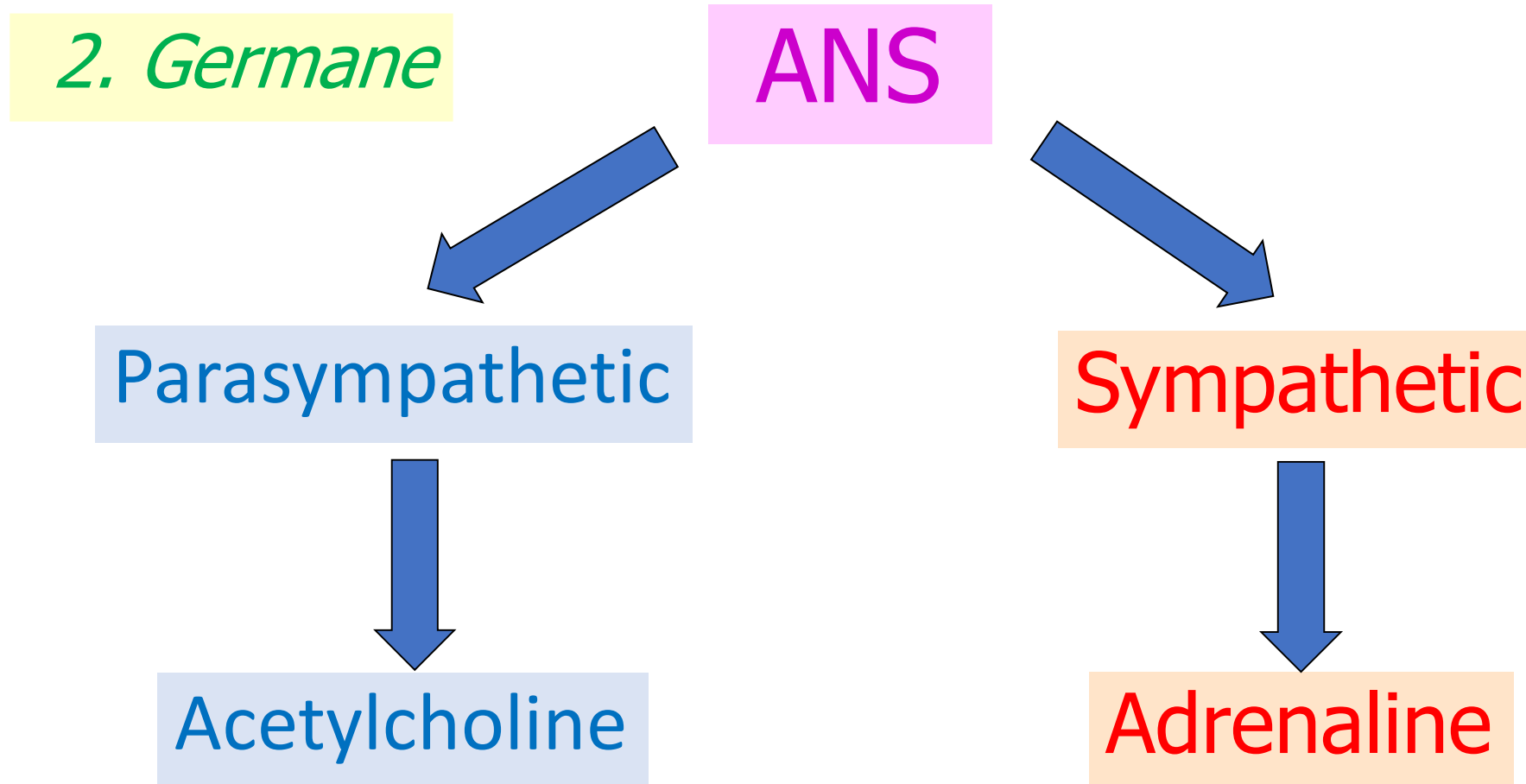
Acetylcholine

Adrenaline



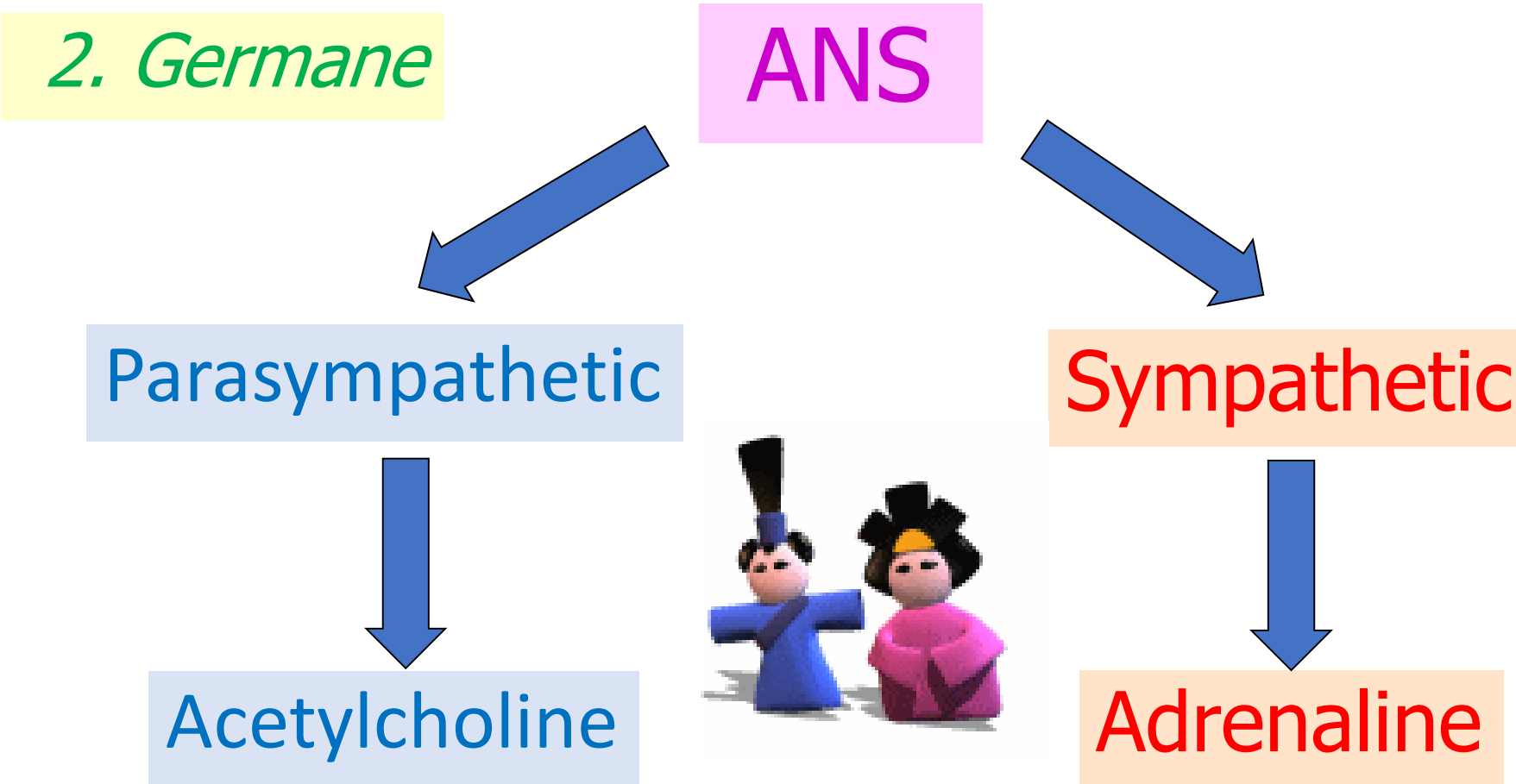


# Classification of Autonomic Nervous System



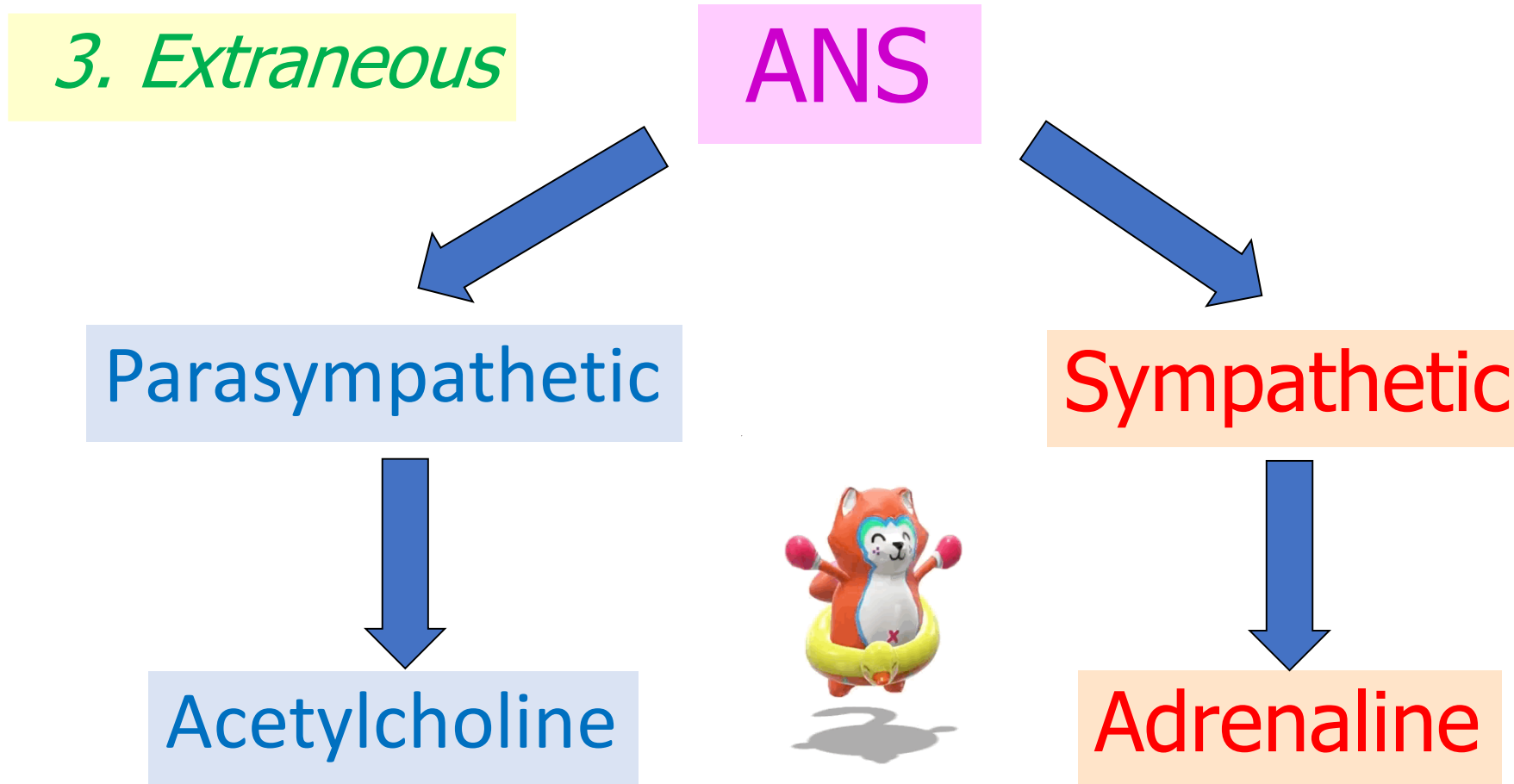


# Classification of Autonomic Nervous System





# Classification of Autonomic Nervous System





## 3. Create Interesting Teaching Media

- **Presentation:** pptx, ppts, Flash Card
- **Model**
- **Screen Recording:** Xbox Game Bar (Win10)
- **Animation/Simulation**
- **Video clip ± with interaction (EdPuzzle)**
- **Audio clip, Text2Speech**



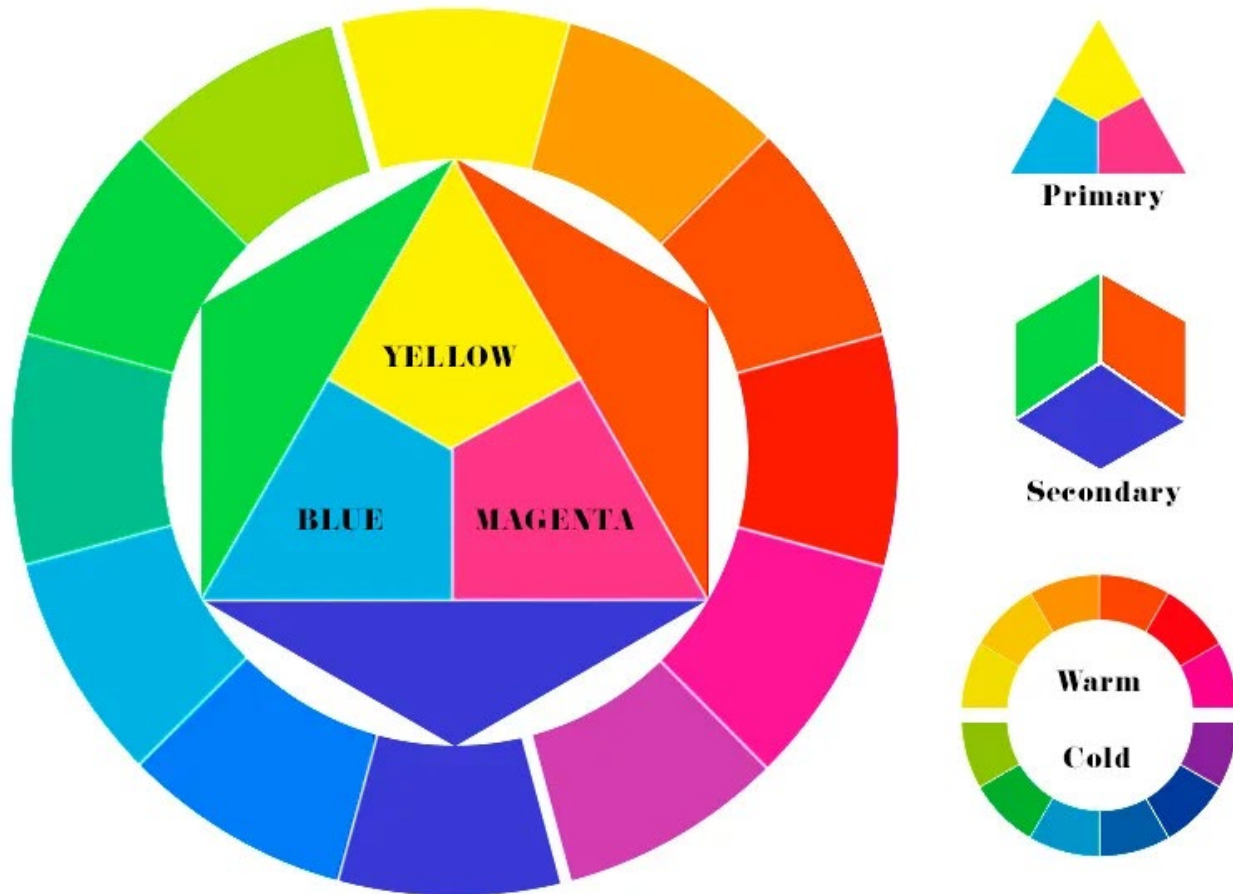
## *3.1 PowerPoint*

- Point of Power with Clean Background
- Font Type & Size **> 24 pt**
- Paragraph Justification
- Bullets or Lines **< 6**
- **M**ixing of **U**ppercase & **L**owercase
- **C**olor & **C**olor Coding





# Color & Color Coding



- 3-4 colors
- **Contrast**
- Color Coding
  - Cold & Warm
  - Implicit Meaning

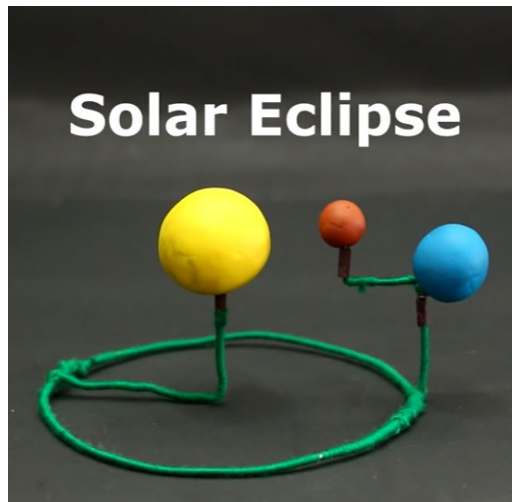


## 3.2 Model

### 1. Physical Model:

- Building model
- Solar/Lunar Eclipse

(<https://www.youtube.com/watch?v=LHRxKyUkS8w>)





# 3.2 Model (2)

## 2. Conceptual Model

31415926535897932384626433832795028  
 84197169399375105820974944592307816  
 40628620899862803482534211706798214  
 80865132823066470938446095505822317  
 25359408128481117450284102701938521  
 10555964462294895493038196442881097  
 5665933446131652712  
 01909145613310454326648  
 2133936070021412712458700660631  
 55881748815200962812540917153643  
 67892590360018053148820466521384  
 14695194151164433027036575959195  
 30921861173832611031051185480744  
 62379962749535188152724891227938  
 1830119491266733144065664308602  
 1394946395137190176609437027  
 705392171131767514818467669  
 40513200056817145263560827785771342  
 75778960917363717872146844090122495  
 34301465495853710507922796892589235  
 42019956112129021960864034418159813  
 62977477130996051870721134999999837  
 29780499510597317328160963185950244



- Formula:  $E=MC^2$

- Symbol:

- Pi

- Traffic sign

- ...

- Letter / Character

日 月



## 3.2 Model: Chinese Character (3)

	→		→		→		sun
	→		→		→		moon
	→		→		→		tree
	→		→		→		mountain
	→		→		→		water
	→		→		→		field
	→		→		→		door

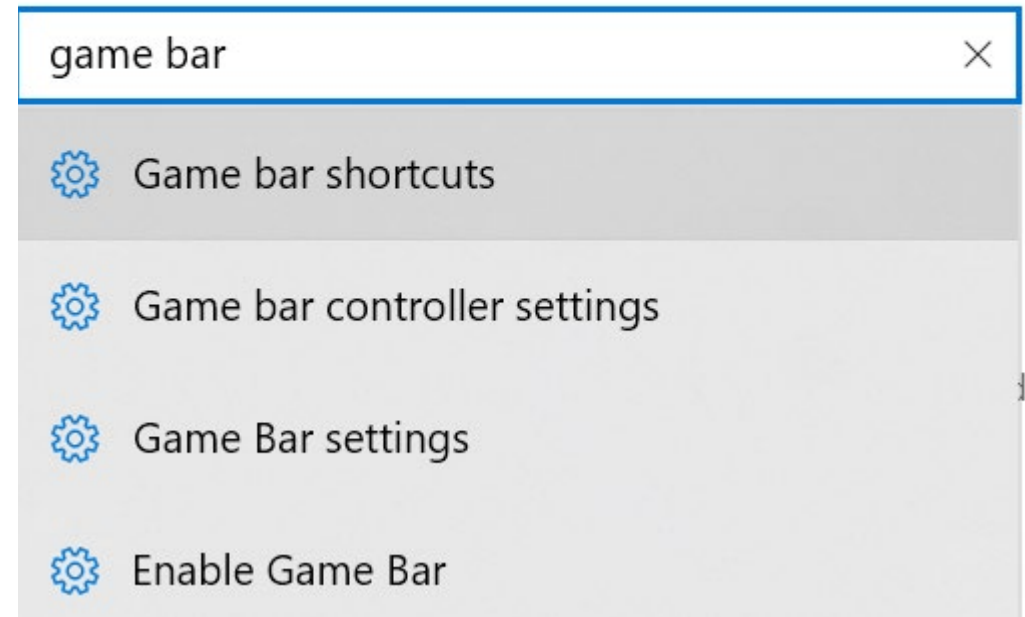


## 3.3 Screen Recording

### ■ Xbox Game Bar (Win10)

1. Press the Window Start button
2. Print “Settings”
3. Search “Game bar”
4. Enable Game Bar
5. Follow the instructions...

Windows Settings





## 3.3 Screen Recording (2)

### ■ Xbox Game Bar – Shortcuts

Keyboard Shortcut	Description
Win + G	Open the Game Bar
Win + Alt + PrtSc	Take a screenshot with Game Bar
Win +Alt +G	Record configuration
Win + Alt + R	Start and Stop recording
Win + Alt + M	Microphone on or off
Win + Alt + B	Start or pause broadcast
Win + Alt + W	Show camera in broadcast



## 4. Tools for Creating Teaching Media

- MS PowerPoint
- Online interactive tools:  
EdPuzzle, Menti.com, Kahoot.com, Padlet.com

4.1 ChatGPT,

4.2 Google Gemini AI

\*\* AI Generator

4.3 Text-To-Image AI Generator: Gemini, Dall-E 3

4.4 Text-To-Video: InVideo

4.5 Text-To-Music: Suno



## 4.1 ChatGPT

- <https://chatGPT.com> v3.5, v4
  - Chrome Extension: WebChatGPT
- Please give me **outlines** (or **10 PowerPoint slides**) for teaching “Physics of Light” for 1<sup>st</sup> year science students.



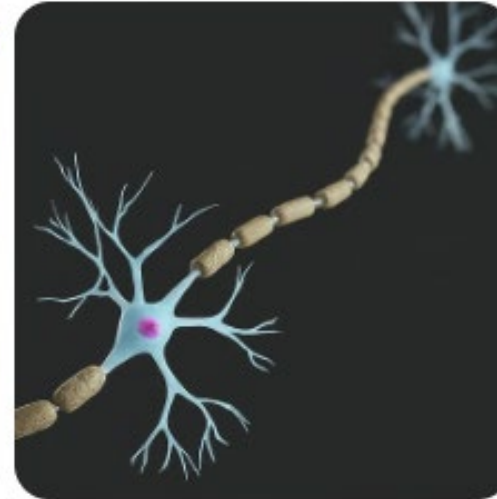


## 4.2 Gemini AI

- <https://gemini.google.com>
- Real time online access
- Text-To-Image AI Generator



> Please generate a picture comprising a neuron sending its axon to synapse with the second neuron





## 4.3 Generate AI Art Images: Dall-E 3

- <https://www.dalle3.org/>

### Dall-E 3

Powered by the most advanced AI Art Image Model, stunning images can be generated with just simple natural language.

Input anything that comes to your mind, for example: a happy dog in the garden

generate

Choose Model

Normal

Realistic

Anime

3D Animation

Aspect Ratio

1:1

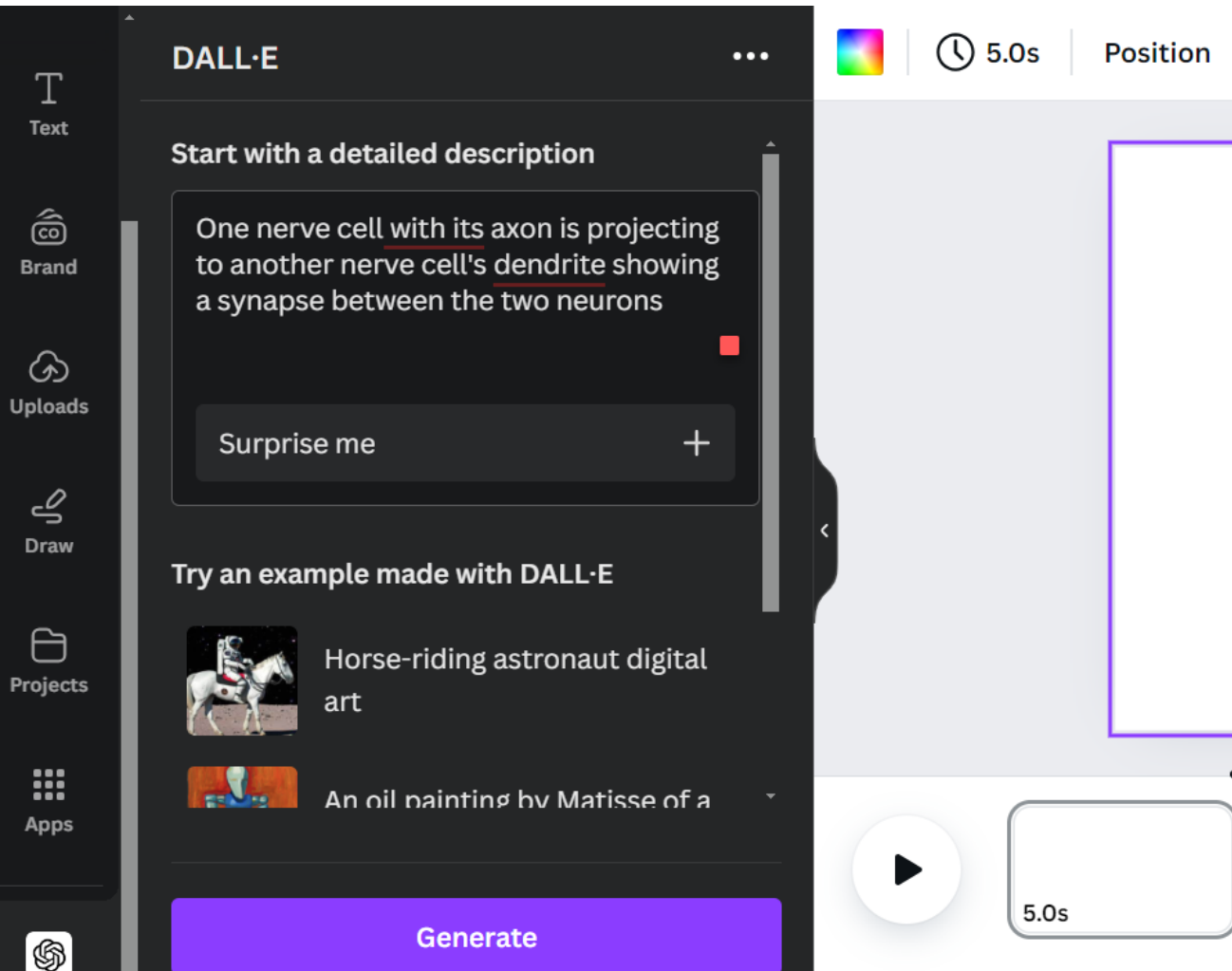
3:4

4:3

16:9



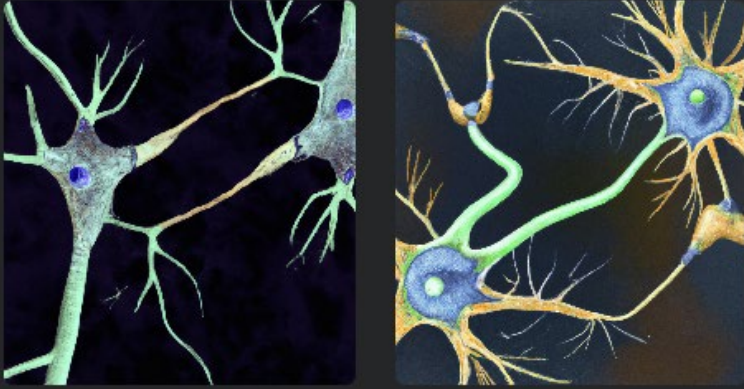
<https://www.dalle3.org/>



- One nerve cell with its axon is projecting to another nerve cell's dendrite showing a synapse between the two neurons




**DALL·E** ⋮



One nerve cell with its axon is projecting to another nerve cell's dendrite showing a synapse between the two neurons

🚩 This technology is new and improving, please check its accuracy and **report these images** if they don't seem right.

 **Generate again**





# > A cute little pig on a rainbow to the sun

 **Dall-E 3** [Home](#) [Blog](#) [AI Art Prompts](#)



## Let AI unleash your imagination !

Image generation takes about 30-60 seconds. Click "Have a Try" for a new image.

Share your masterpiece



### Prompt

A cute little pig on a rainbow to the sun

 Copy prompt

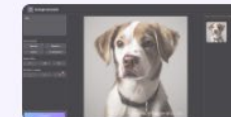
Choose Model: normal

Aspect Ratio: 1:1

[Download Picture](#)

[Have a try !](#)

Free AI Image Generator  
Based on Stable Diffusion XL  
Fast, Precise, 30 Free Uses  
Daily!



[Generate Now](#)



# > Visible light spectrum refraction with a cylindrical prism





# 4.4 Text-To-Video AI Generator

- <https://ai.invideo.io/>

The screenshot shows the homepage of InVideo AI. At the top, there is a navigation bar with the InVideo AI logo, a dropdown menu for 'invideo AI', and links for 'invideo Studio', 'Help', 'Community', and 'Pricing'. On the right side of the navigation bar, there are 'Login' and 'Sign up' buttons. Below the navigation bar, a large banner features the text 'Create videos with text prompts' in a bold, sans-serif font, with 'text prompts' in a pink color. Underneath this banner, a sub-headline reads 'Publish-ready videos with zero video creation skills. Type any topic and invideo AI creates a video with script, visuals, subtitles, voiceover & music.' At the bottom center of the page, there is a prominent blue button with the text 'Try invideo AI'. The background of the page is white, and there are some decorative elements like a small purple star icon on the right side.





# Unveiling the Brain: A Journey Through Neural Pathways

- <https://ai.invideo.io/workspace/9ade0577-473e-4110-9cf8-a68957ec48c9/v20-copilot/89c3394d-a7c5-4fd6-b4e0-3058650526c0>

Model: v2.0 ▾

Give me a topic, language and detailed instructions

0/25000

**Generate a video** ✨

Currently previewing in 240p. You can export in HD.

00:24 / 01:44

240

Give me a command to edit the video

**Generate** ✨



# 4.5 Text-To-Music AI Generator: Suno

- <https://sunoai.ai/>

**Lyrics**

**Style of music**

**Title**

Suno AI Music Generator

Create unique Suno AI MP3 songs instantly, free to use. Download and enjoy innovative music now!

Custom Mode

Lyrics ⓘ

Enter your own lyrics...

Instrumental ⓘ

Style of Music ⓘ

Enter style of music

Title ⓘ

Enter a title

You can generate 5 times | display public

Generate



Please generate lyrics for a 1970's folk song, entitled "Tomorrow once more" for input into Suno.

### Style of Music ?

1970 folk song



### Title ?

Tomorrow once more



You can generate 5 times | display public

**Generate**



**Tomorrow once more**

Created By Dr. Chailerd "Num"  
Pichitpornchai With **Suno AI**



Monday July 8, 2024 @S31 Hotel Sukhumvit 31 Rd.

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วิทยากร  
รศ. ดร.นายแพทย์ชัยเลิศ พิชิตพรชัย



สมัครได้ที่ → <https://il.mahidol.ac.th/th/chatgpt-gemini-social-1/>



Tuesday July 9, 2024 @S31 Hotel Sukhumvit 31 Rd.

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<https://il.mahidol.ac.th/th/>

สมัครได้ที่ → <https://il.mahidol.ac.th/th/chatgpt-gemini-meded-3/>



# About the Speakers



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