

*A summer program on AI, English reasoning,
and narrative clarity*



漫話細說 ChatGPT

展示館解說高階英語訓練

Think Softly • Exploring Deeply



Advanced English
高階英語

Century Mysteries
英語世紀之謎

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Jul 14 – Aug 25, 2025





漫話細說 ChatGPT

展示館解說高階英語訓練

Think Softly · Exploring Deeply

**ChatGPT: Thinking Softly, Exploring Deeply
Advanced English for Exhibition Narratives**

漫話細說 ChatGPT — 展示館解說高階英語訓練

Advanced English
高階英語

Century Mysteries
英語世紀之謎

- 很重要
- 很常用
- 常犯錯

- 長期未徹底了解
 - 善用 ChatGPT
 - 邏輯通用法則
- Universal Rules of Logic

Universal Rules of Logic

冠詞
單複數名詞
名詞片語
複合名詞

對等連接詞
附屬連接詞
修飾詞
現在式
現在進行式

對等連接詞

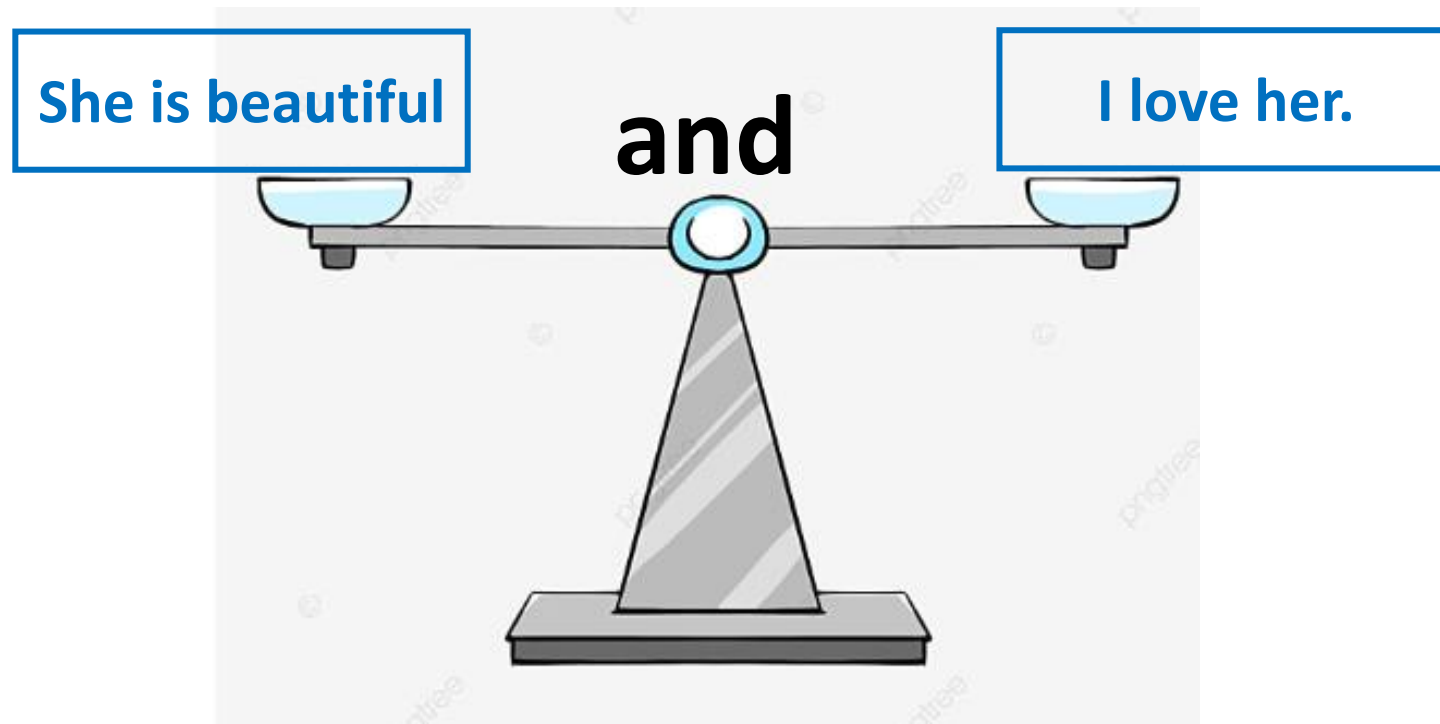
Coordinate Conjunction

Sentence	Correct?	Why
She is beautiful and I love her.	✓ (also OK)	Acceptable in informal writing; short and balanced
She is beautiful, and I love her.	✓ (preferred)	Standard, especially in formal or academic writing
She is beautiful. I love her.	✓	Two separate sentences — clear and correct

X She is beautiful, I love her. 《藕斷絲連》

對等連接詞

Coordinate Conjunction



FANBOYS :

For, And, Nor, But, Or, Yet, So

反轉測試 Reverse Test

- 「是否可以反轉」就是判斷是否為對等關係（coordinate connection）。
- 如果反轉語序後語意仍然成立，即為語意對等，表示可保留 "and" 並列。
- 如果反轉後語意不通順，則多半屬於主從關係（如目的、結果），應改為 C1 結構（如：to + V）。

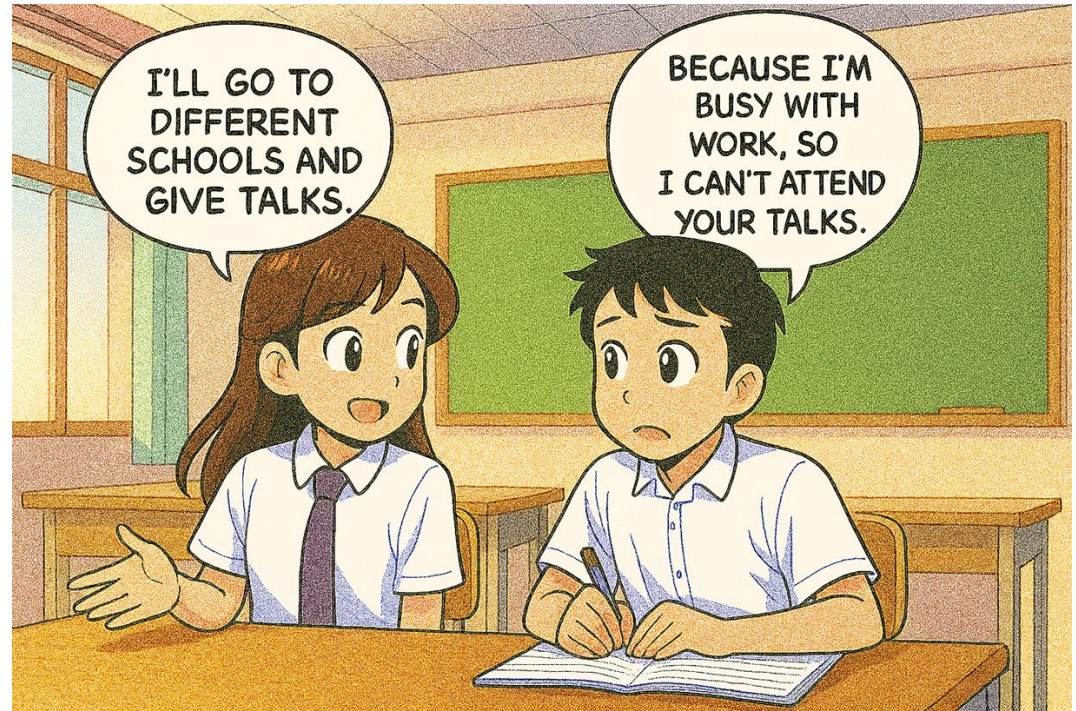
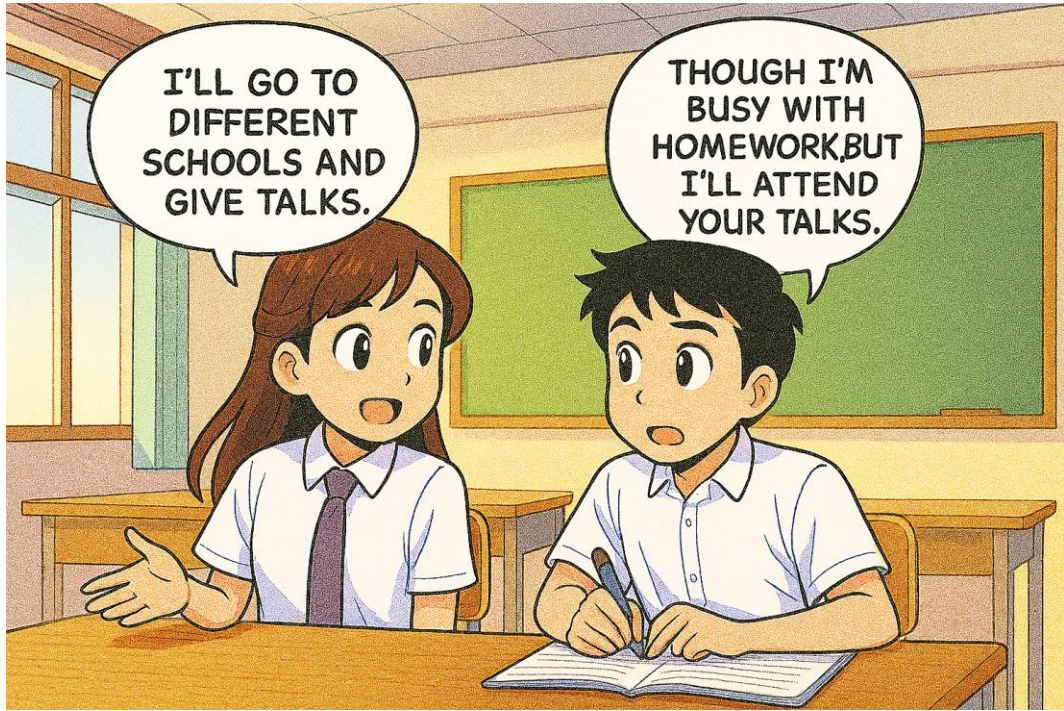
✓ 英文連接詞 “and” 的常見語意用法 (ROETL)

類型	英文語意說明	中文說明	範例句	中文翻譯
1. Addition (並列)	Adding similar or related actions or states	並列兩個動作或狀態	She sings <u>and</u> dances.	她又 <u>唱</u> 又跳。
2. Sequence (先後)	Implies chronological order	表示時間上的先後順序	He got dressed <u>and</u> left the house.	他穿好衣服後 <u>就</u> 出門了。
3. Result / Effect (因果)	The second clause is the result of the first	表示因果關係	She was sick <u>and</u> stayed home.	她生病了， <u>所以</u> 待在家。

✘ 不能使用“and”的語意 — 類別：目的 Purpose

不可用類型	正確做法	範例錯誤句	建議修改
目的 Purpose	用 "to + V" 表示目的 (C1 Verb Transformation)	✘ I go to different schools <u>and</u> give talks.	✔ I go to different schools to give talks.

4. Contrast (對照)	Rare, but "and" can contrast ideas subtly	表示輕微對比	He is rich and unhappy.	他很有錢，卻不快樂。
5. Condition (條件)	Sometimes used like "if" in informal speech	表示條件關係 (非正式)	You touch it and it breaks.	你一碰它就壞了。
6. Cause-Effect (因→果)	Like "so," the second is a logical consequence	因→果 的邏輯順序	She is beautiful and I love her.	她很美，我愛她。
7. Contrast-Emphasis (出乎意料)	First clause sets up an unexpected second	突顯或出人意表的語意	He studied hard and still failed.	他很努力讀書，卻還是被當了。



連接詞「because」和「so」不能在同一句中連用！



分享



分享



連接詞「because」和「so」
不能在同一句中連用



在中文當中「**因為...所以...**」很自然的是在同一個句子中連用，但**英文只能使用其一**，來看以下例句使用：

because 和 so 的用法

S2 + V2..., so S1 + V1...
= S1 + V1... + because + S2 + V2...
= Because + S2 + V2..., S1 + V1...

- * because 若置於句首，則與後面子句中間須加上逗號。
- * **注意**：because、so 為同表「因果關係」的從屬連接詞，不能同時使用於一個句子中。

I didn't know the answer, **so** I asked my friend.
= I asked my friend **because** I didn't know the answer.
= **Because** I didn't know the answer, I asked my friend.
我不知道答案，所以我問了朋友。

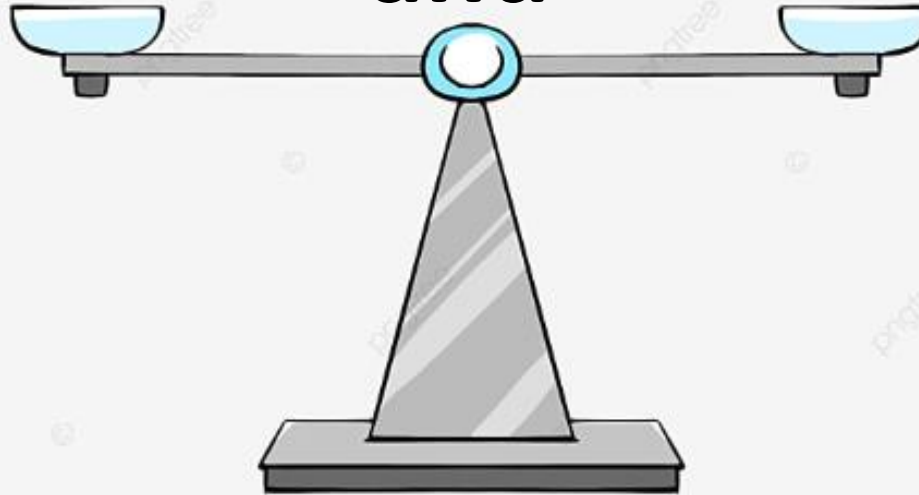
I go to different schools, and give talks.

我到很多學校，也有演講。

I go to different schools

give talks.

and



對等連接詞
Coordinate
Conjunction

FANBOYS :
For, And, Nor, But, Or, So

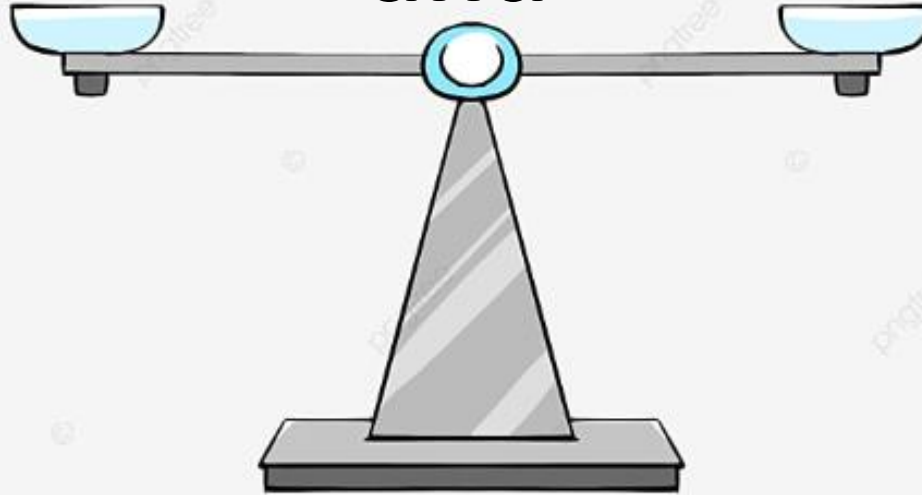
I give talks and go to different schools.

我到很多學校，也有演講。

I give talks

go to different schools

and



對等連接詞
Coordinate
Conjunction

FANBOYS :
For, And, Nor, But, Or, So

IELTS 口說學生最常犯的五個錯誤

5 Common mistakes

4-Step system



The 5 Most Common Mistakes in IELTS Speaking

The 5 Most Common Mistakes in IELTS Speaking 2025.7.20



The Speaking Success System

1. Try
2. Discover
3. Practice
4. Build



The 5 Most Common Mistakes in IELTS Speaking

THE SPEAKING Success System

1 **TRY.** Take a question and try to answer it.

嘗試：找一個問題，試著回答

2

DISCOVER. Watch a native speaker answer the question.

發現：觀察母語人士如何回答 <ChatGPT>

3

PRACTICE. Practice repeating the chunks and answering the same question again.

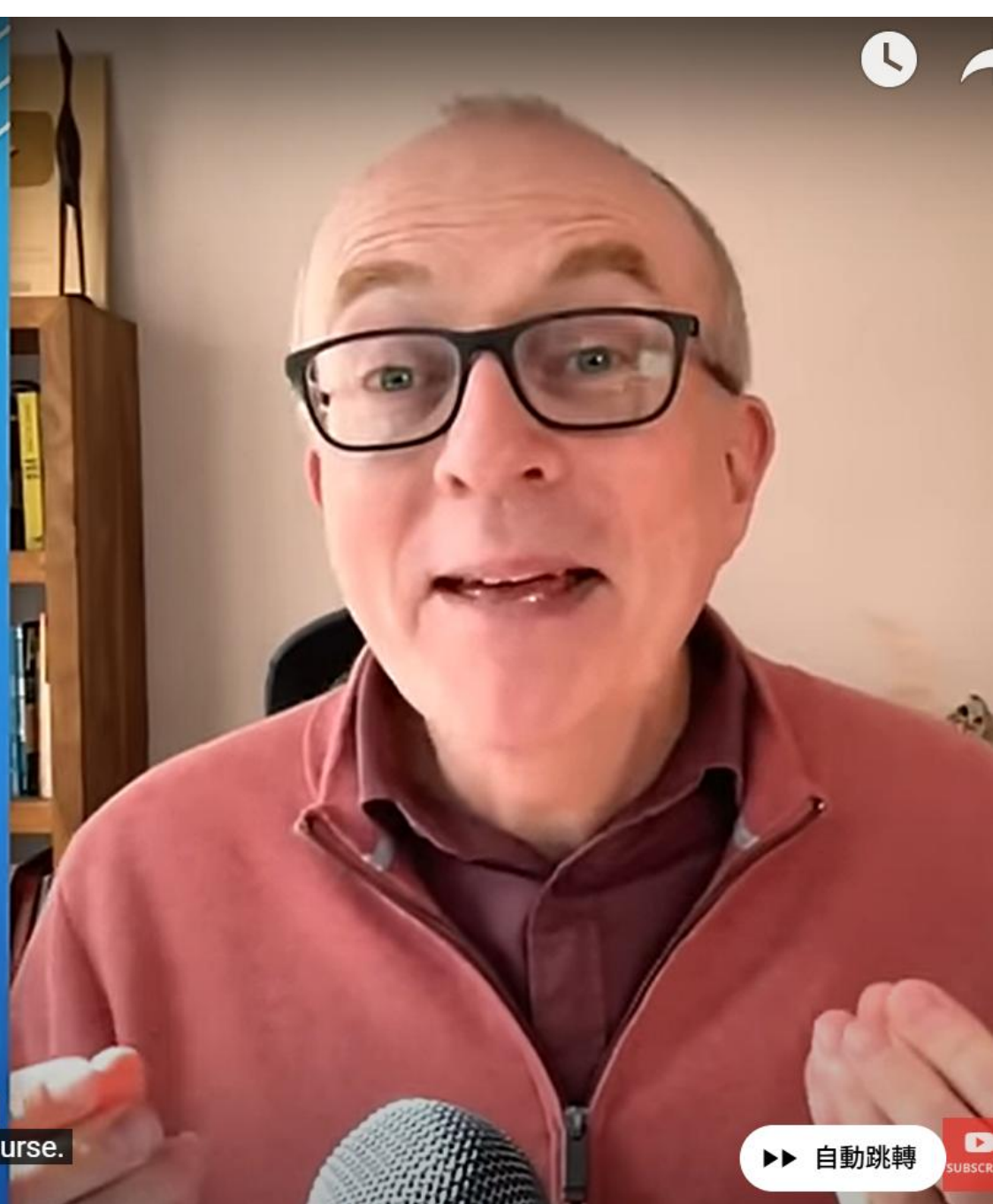
練習：重複練習語塊回答問題 <ChatGPT>

4

BUILD. Give different answers to the same question.

建立：用不同方式回答 <ChatGPT>

It's a system that underpins the whole course.



▶▶ 自動跳轉

SUBSCR

Mistake #1: *Writing and Reading Your Answers Aloud*

X 錯誤一：寫下並大聲朗讀你的答案



寫下一個想法、關鍵字或是一些固定搭配詞



增進口說能力，需要練習口說！

要怎麼做呢?
練習說出答案 (不是用讀的)

What to do instead!

*Practice speaking out
your answer
(without reading)*

So much better to listen to the question



Mistake #2: *Memorising Answers*

錯誤二：死記答案


You get **tongue-tied**

= you can't speak!

你就會卡住、腦袋空白，說不出話來。

*The skill you need is
flexibility when you speak*
The skill is flexit

技能在於說話時的靈活性，那才是你真正需要的。

A man with glasses and a red jacket is speaking. In the background, there is a wooden bookshelf with books and a YouTube play button award. The text on the right is a quote from him.

「我從高中開始就靠死記硬背來學英文，這讓我很難講得流利。我每天記單字，但不知道怎麼用在句子裡。」

H

I learn English by rote since I was a high school student. It makes me struggle to speak well. I note vocabulary every day. I do not know how to put it in a sentence.



What to do instead!

Develop *flexibility*
by memorising and
practicing *chunks*

要背和練習的是語塊、片語、
小單位的語言結構，以培養靈
活度。

語塊

A chunk

= 2 or 3 words together

small chunks of language, right?



**Grammatical
chunks**

文法語塊

**Idiomatic
expressions**

成語表達

Phrasal verbs

片語動詞

Lexical chunks

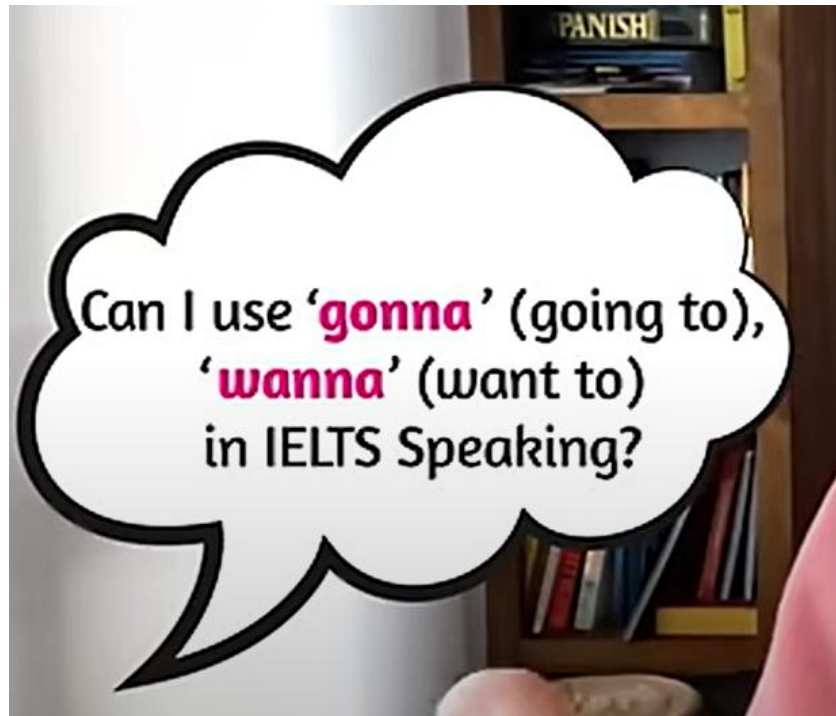
詞元語塊

**Learn to *improvise*
not *memorise!***

練習改進

不是死記

Mistake #3: *Using Formal English*



*IELTS Speaking is a test of
natural, conversational English*

What to do instead!

*Practice natural,
conversational English*

Mistake #4: *Learning Lists of Vocabulary*

*Word lists lack
sufficient context*

What to do instead!

*Learn vocabulary
by topics*



Mistake #5:
No Pain, No Gain!

What to do instead!

Enjoy your study!

*Fluency and flexibility
are key!*

The Speaking Success System

The Speaking Success System

1. Try
2. Discover
3. Practice
4. Build

Step 1. Try

*Take a question
and try to answer*

A spontaneous answer

= a non-prepared answer

Step 2. Discover

*Watch a native-speaker
answer the question*

**You will discover
natural spoken English**

**You will hear chunks
in context**

***Don't try to memorise the answer,
memorise the chunks!***

Step 3. Practice

*Practice repeating
the chunks*

*Practice answering
the same question again*

to impro

Synonyms

Antonyms

Change tense

Substitution

Step 4. Build

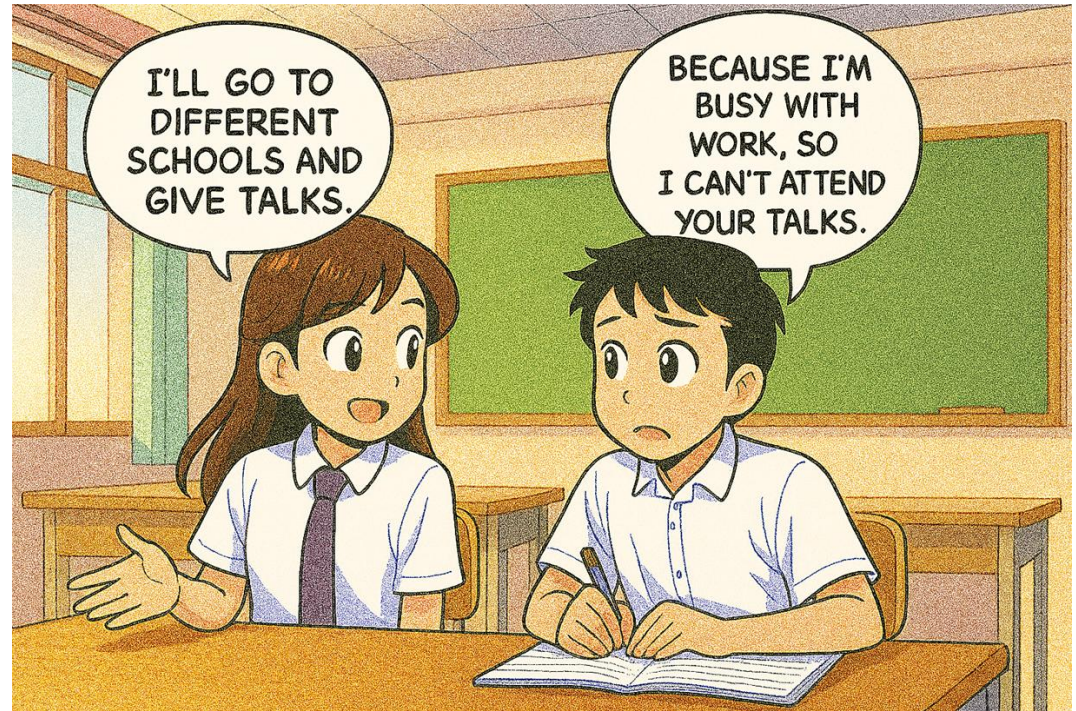
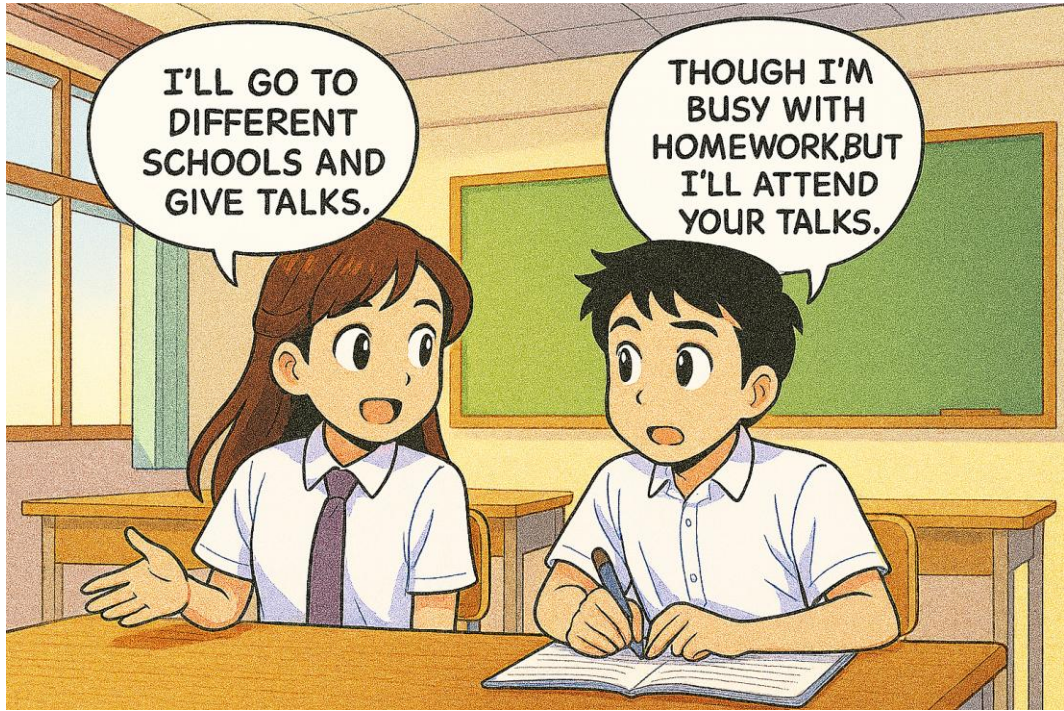
*Give different answers
to the same question*

Step 4. Build

*Give different answers
to the same question*

*You will build **flexibility**
and **confidence***

And when you have that flexibility,



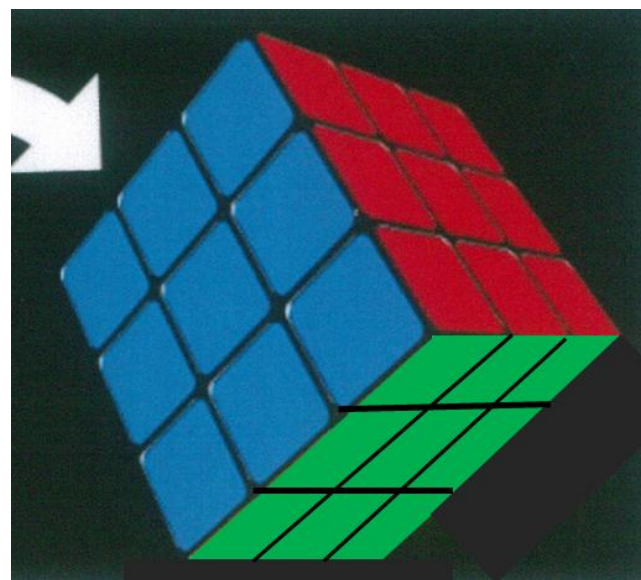
五顏六色英語句子結構分析

The 5-Block, 6-Color Framework for English Sentence Analysis

■ 八大詞類：
Parts of speech



■ 句子組成：
Parts of sentences



Knowing



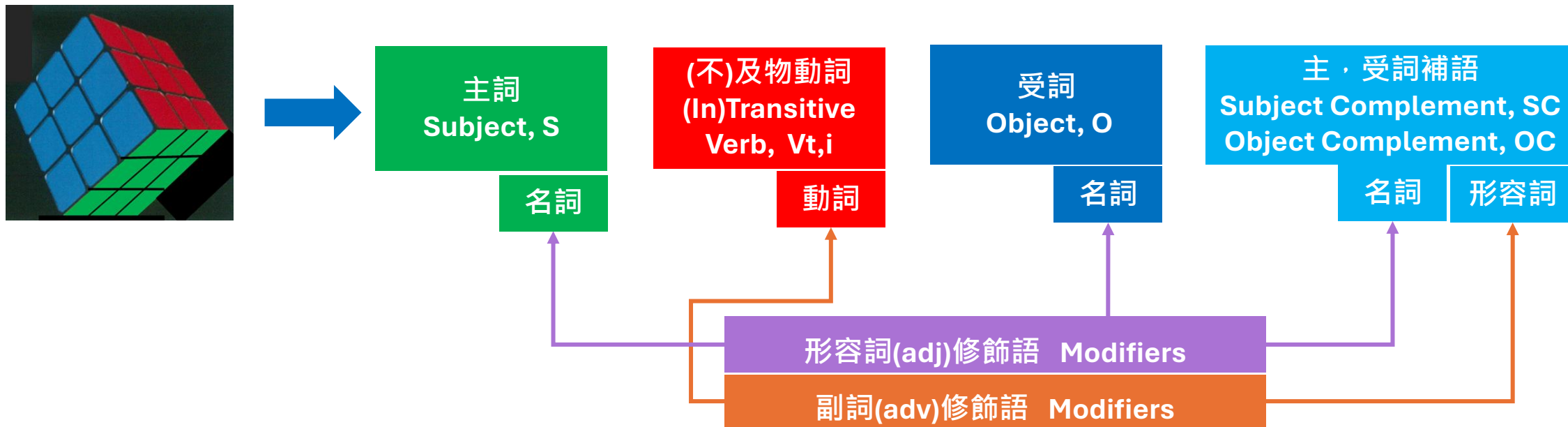
五顏六色英文句子
結構分析



英語教與學的革新

五顏六色英語句子結構分析

The 5-Block, 6-Color Framework for English Sentence Analysis



- 英文句子之本質：在處理主要動詞（紅色方塊）之外，如何處理次要動詞。

The essence of English sentence structure: how to handle secondary verbs beyond the main verb (the red block).

- 句子的主要詞類：名詞、動詞、形容詞、副詞

The core parts of speech in English sentence construction: nouns, verbs, adjectives, and adverbs.³⁵

五顏六色英語句子結構分析

The 5-Block, 6-Color Framework for English Sentence Analysis

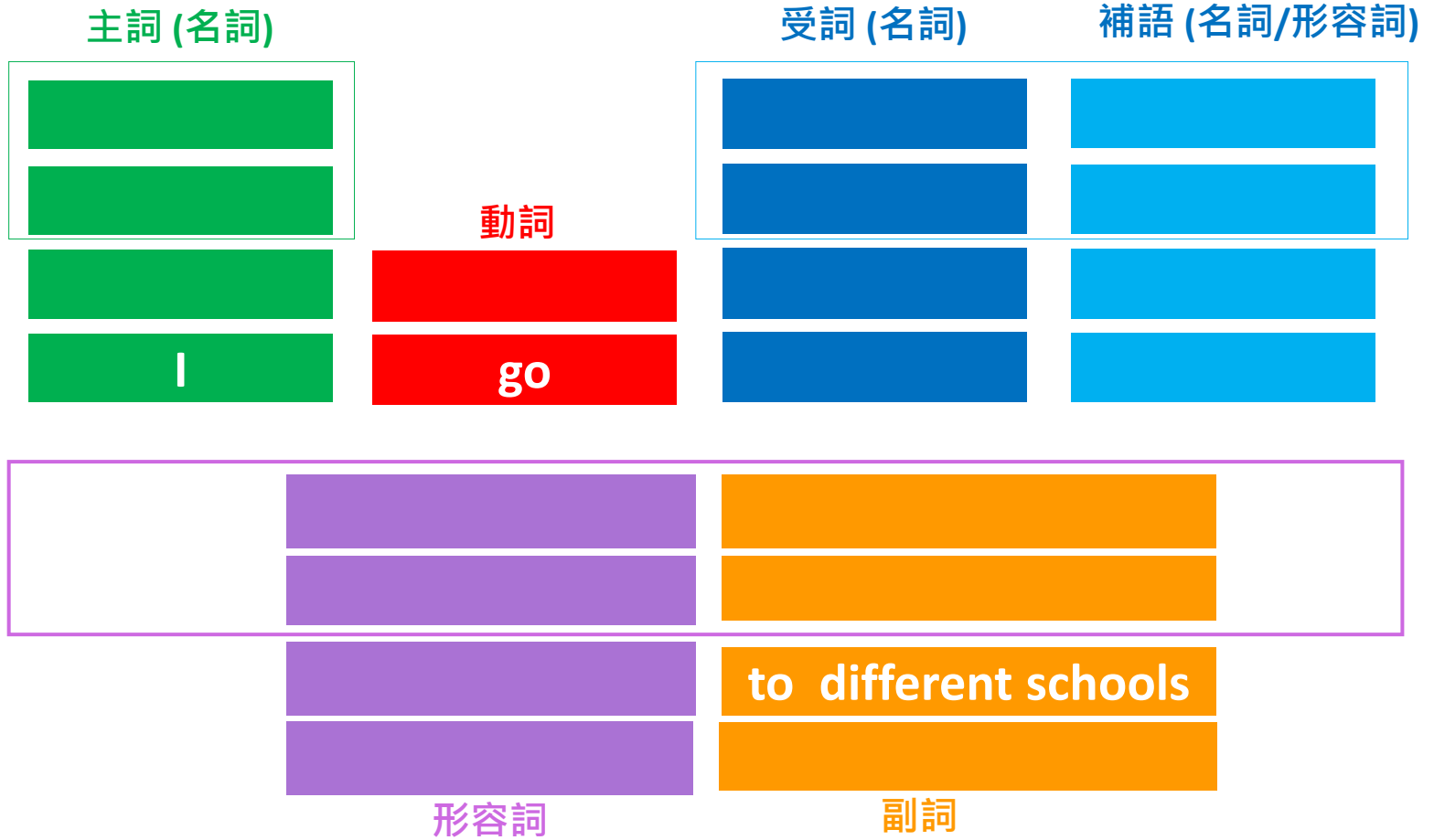
基本英文句型 — Basic English Sentence Patterns

S-1	S	+	Vi		A bird sounds. Pronunciation matters.
S-2	S	+	Vi	+ SC	She is a teacher. She is beautiful.
S1	S	+	Vt	+ O	I love you. Rusty hates having his bath. She loves to eat.
S2	S	+	Vt	+ O + OC	They elected him president. We should do the things right.
S3	S	+	Vt	+ IO + DO	I gave her a book.

I go to different schools.

我到很多學校。

- 進化(子句)
- 蛻變(片語)
- 片語
- 單字

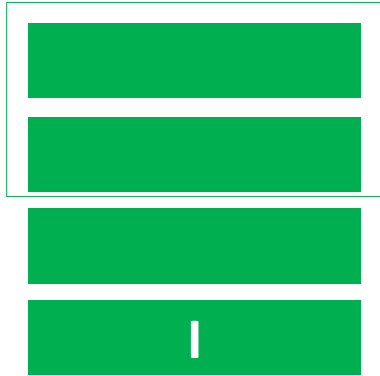


I give talks.

我演講。

- 進化(子句)
- 蛻變(片語)
- 片語
- 單字

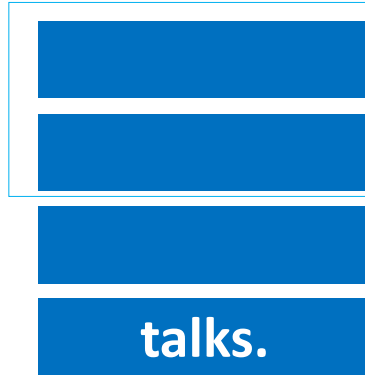
主詞 (名詞)



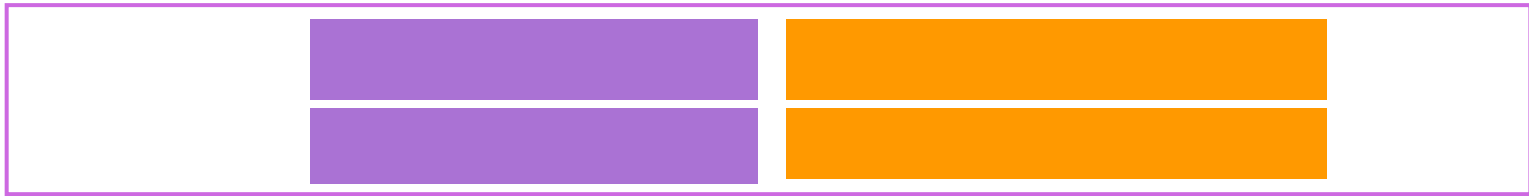
動詞



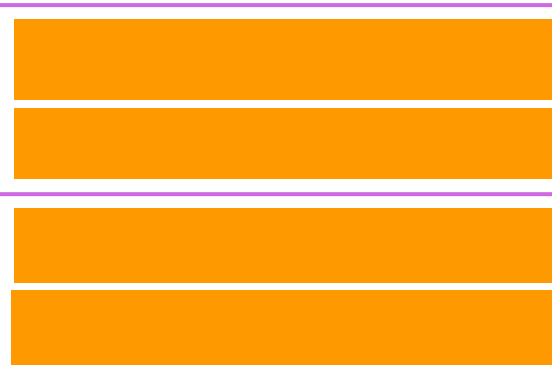
受詞 (名詞)



補語 (名詞/形容詞)



形容詞



副詞

I go to different schools, and give talks.

我到很多學校，也有演講。

主詞 (名詞)		受詞 (名詞)	補語 (名詞)
	動詞		
I	go		
		to different schools	

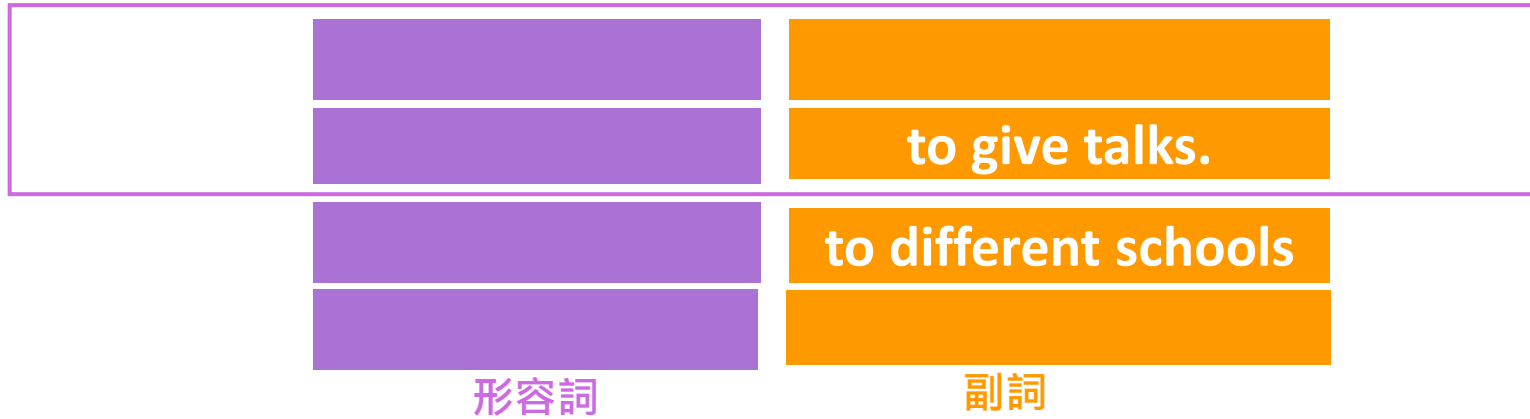
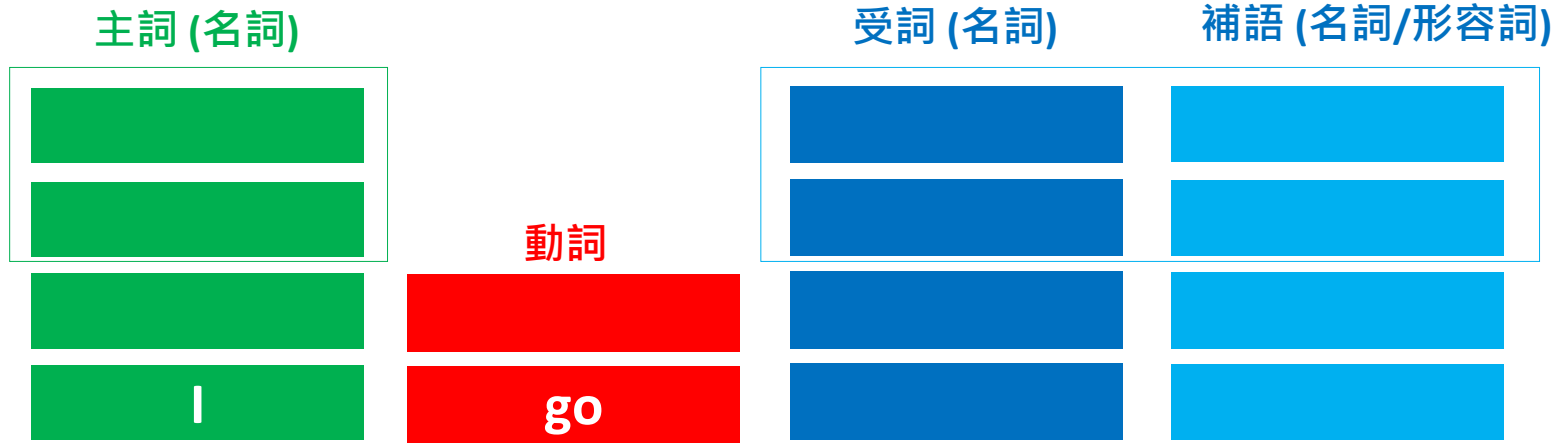
and

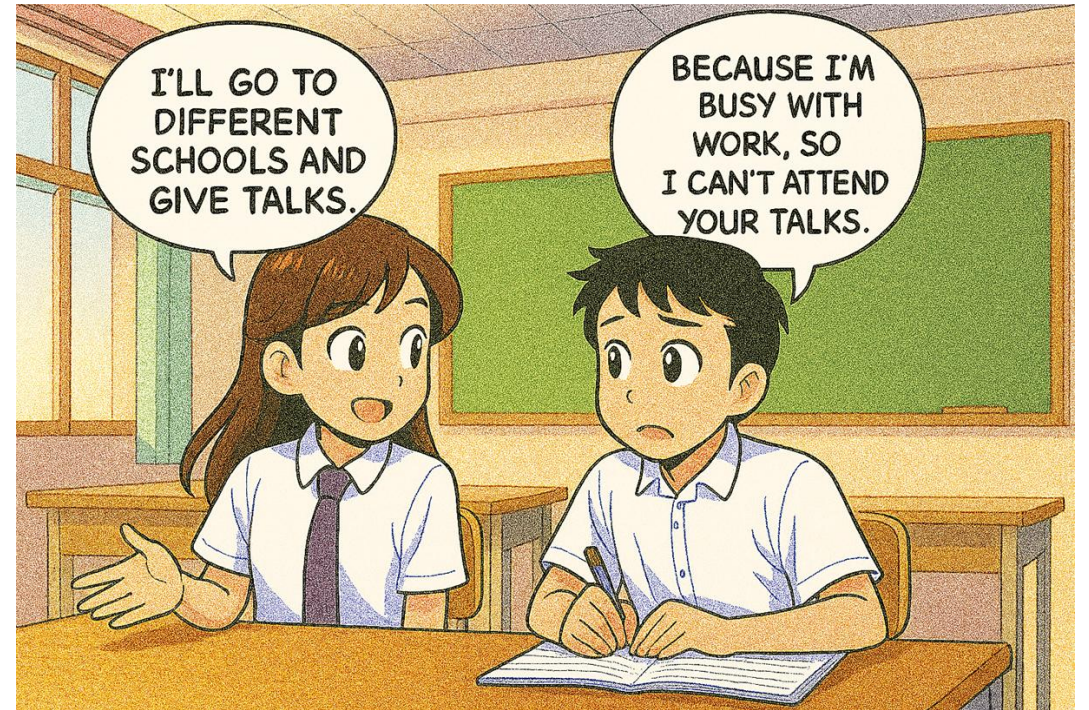
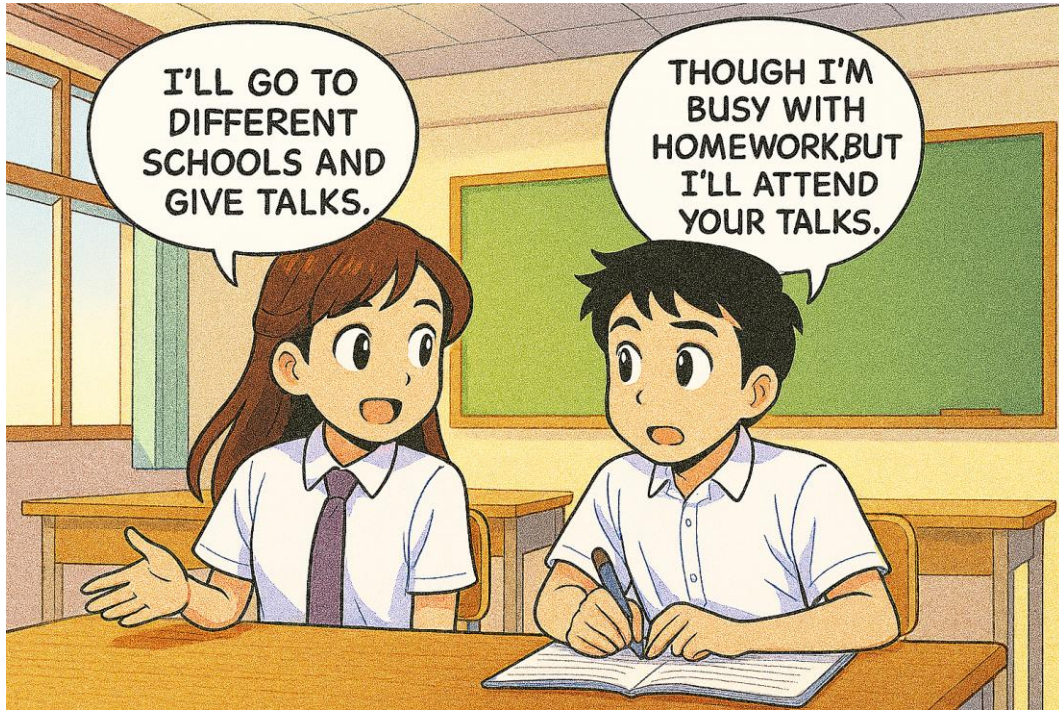
主詞 (名詞)		受詞 (名詞)
	動詞	
I	give	talks.

I **go** to different schools to give talks.

我到各個學校去演講。

- 進化(子句)
- 蛻變(片語)
- 片語
- 單字





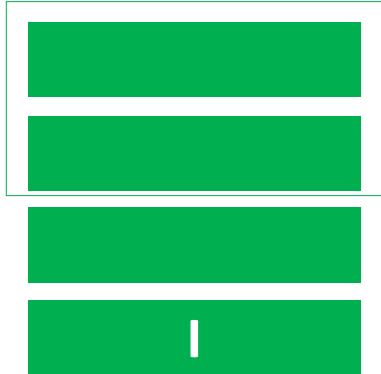
I'm busy with homework, but I will attend your talks.

I will attend your talks though I'm busy with homework.

我寫作業很忙，但是我會去聽你演講的。

- 5E 進化(子句)
- 4C 蛻變(片語)
- 3P 片語
- 單字

主詞 (名詞)

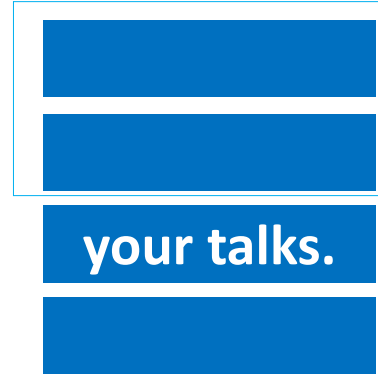


動詞

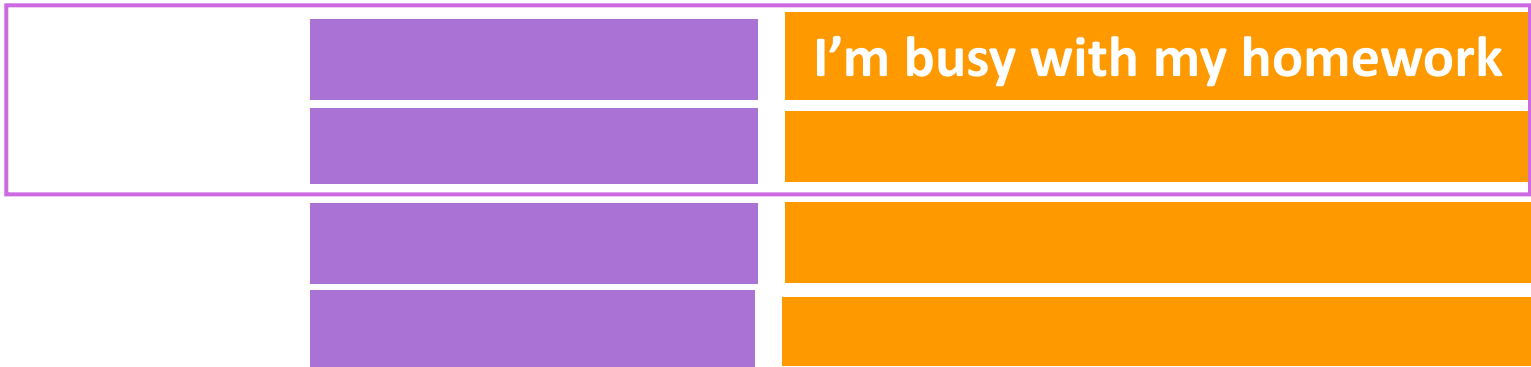
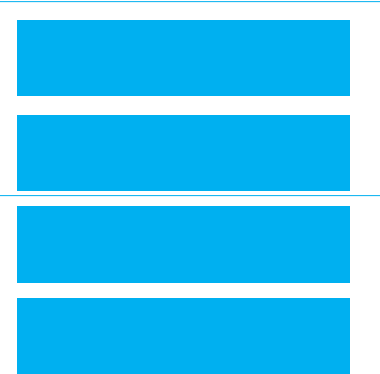
will attend



受詞 (名詞)



補語 (名詞/形容詞)



形容詞

副詞

Fully Understand the Context

徹底了解語境

To fully understand the context means examining language through three essential dimensions:

1. **Grammar** – Is the sentence structurally correct?
2. **Semantics** – Is the meaning accurate and logical?
3. **Pragmatics** – Is the usage appropriate for the situation, tone, and intent?

It is not enough for a sentence to be correct in form or meaning – it must also make sense in real-world use.

徹底了解語境

表示從語言的三個面向進行全面理解：

1. 語法：句子結構是否正確？
2. 語意：句子意思是否正確，合邏輯？
3. 語用：句子是否符合情境、語氣和意向？

I **go to different schools to give talks.**

我到各個學校去演講。

I **go to different schools, and give talks.**

我到很多學校，也有演講。

(實際語境中，此句很少用。)

✳ 用 "and" 時，中文應翻為：
「也」、「而且也做了...」

✳ 用 "to" 時，中文應翻為：「去
做...」、「為了...」

✳ 若中文語意是「去做某事」，英文必須用 **to + V** 而非 **and**。



漫話細說 ChatGPT

展示館解說高階英語訓練

Think Softly · Exploring Deeply

◆ 2017 年 — 開啟生成式 AI

Google Research 發表突破性的論文〈Attention Is All You Need〉，正式開啟生成式 AI 的時代。

◆ 2022 年 — ChatGPT 的誕生

OpenAI 推出 ChatGPT，開創聊天機器人的新世界，重新定義人機互動的方式。

◆ 只要充分了解並善用 ChatGPT，就能解決各種問題。有了 ChatGPT，凡事無需再求於人。

By fully understanding and making good use of ChatGPT, one can solve all kinds of problems.

With ChatGPT, there's no longer a need to rely on others.

蛻變 Change

S1: Chameleons have an ability. 變色龍有一種能力。

S1: Chameleons change color. 變色龍會變色。

變色：變成紫色
變性：變成形容詞片語

蛻變 1：動詞蛻變成 to+V：

S1: Chameleons have an ability to change color.

C1

進化 Evolution

S-2: Chameleons are animals. 變色龍是動物。

S1: Animals change color. 動物會變色。

變色：變成紫色
變性：變成形容詞子句

進化 E2: Veil +V，Veil關係代名詞，
當主詞或 (Veil+be) +形容詞

E1

S-2 + S1: Chameleons are animals that change color.

句子結構分析範例 – ROETL Analysis

- The dog that barked loudly scared me. =
The dog barking loudly scared me.

李校長是如此解釋的：

關係代名詞that當作主詞時，可以省略，不過要將子句中的主要動詞改為動詞+ing。

- The dog that barked loudly scared me. (E2)
- The dog barking loudly scared me. (C3)

- **Chameleons have the ability to change color.**

變色龍有變色的能力。

- **Chameleons are animals that change color.**

變色龍是一種會變色的動物。

- **The chameleon is my favorite pet.**

變色龍是我最喜歡的寵物。

- **The Chameleon is an animal that changes color. (contrast to other animals)**

變色龍是一種會變色的動物。（相對於其他動物）

- **A Chameleon is an animal that changes color.**

變色龍是一種會變色的動物。

X Chameleons are animals to change color.

變色龍是變色的動物。

X Chameleons have the ability that changes color.

變色龍有一種能力會變色。

< 這兩句語意不正確 >

語用恰當—最終目標也最難掌握

Pragmatically appropriate — the ultimate goal and the hardest to grasp.

- ✓ 起點：語法正確 → Grammatically correct
- ✓ 必要：語意合乎邏輯 → Semantically logical
- ✓ 目標：語用恰當 → Pragmatically appropriate

- 語法正確，但語意錯誤

Grammatically correct, but semantically incorrect

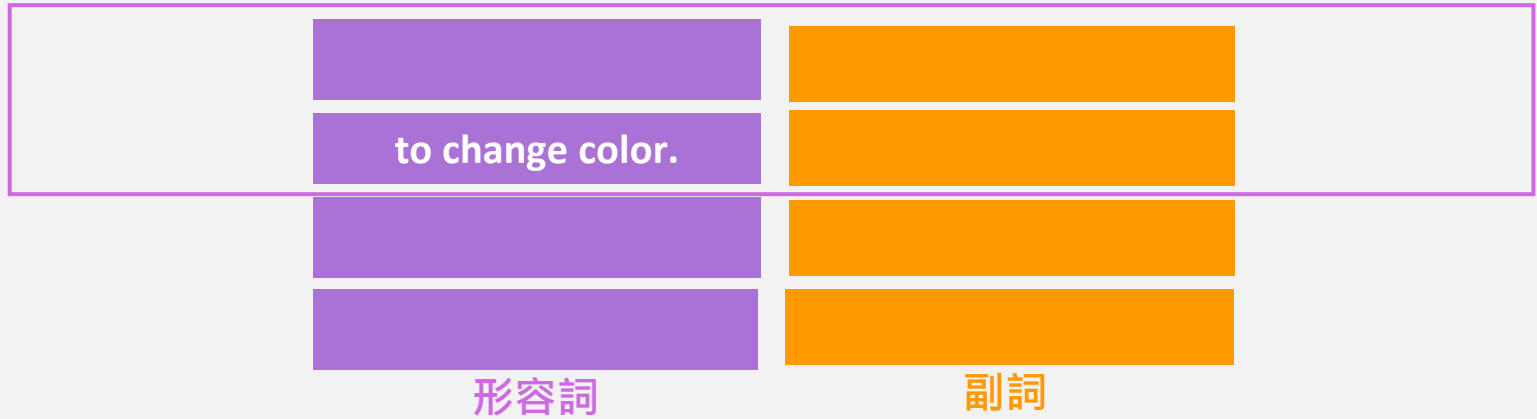
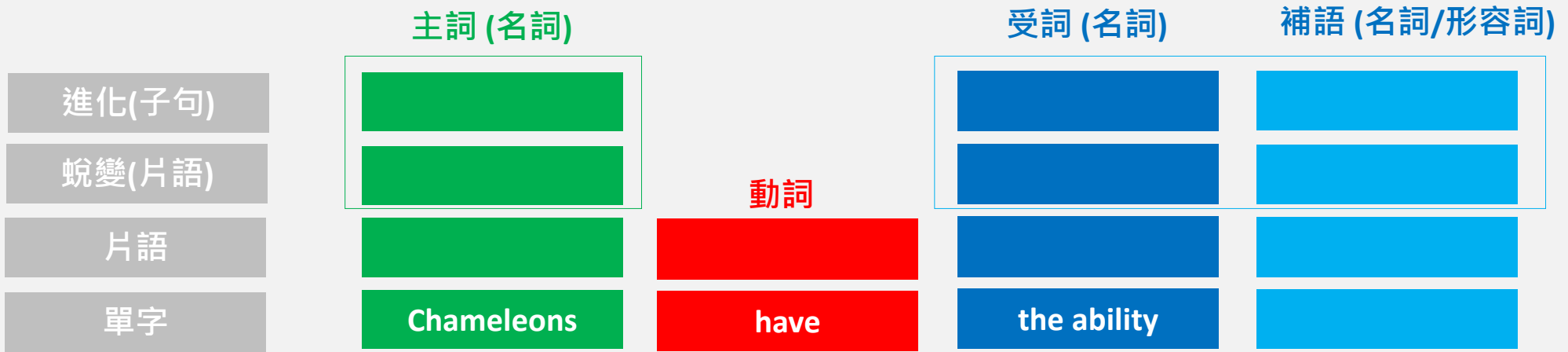
- ✗ Chameleons are **animals to change color**. 變色龍是變色的動物。
- ✗ Chameleons have **the ability that changes color**. 變色龍有一種能力會變色。
- Chameleons are **animals that change color**. 變色龍是會變色的動物。
- Chameleons have **the ability to change color**. 變色龍變色的能力。

- 語法正確，語意合乎邏輯，但語用不恰當

Grammatically logical, but semantically inappropriate

- I'll **go** to different schools and **give** talks. 我要到各個學校，也會演講。(not native)
- I'll **go** to different schools **to give** talks. 我要到各個學校演講。(真正要表達的語意)

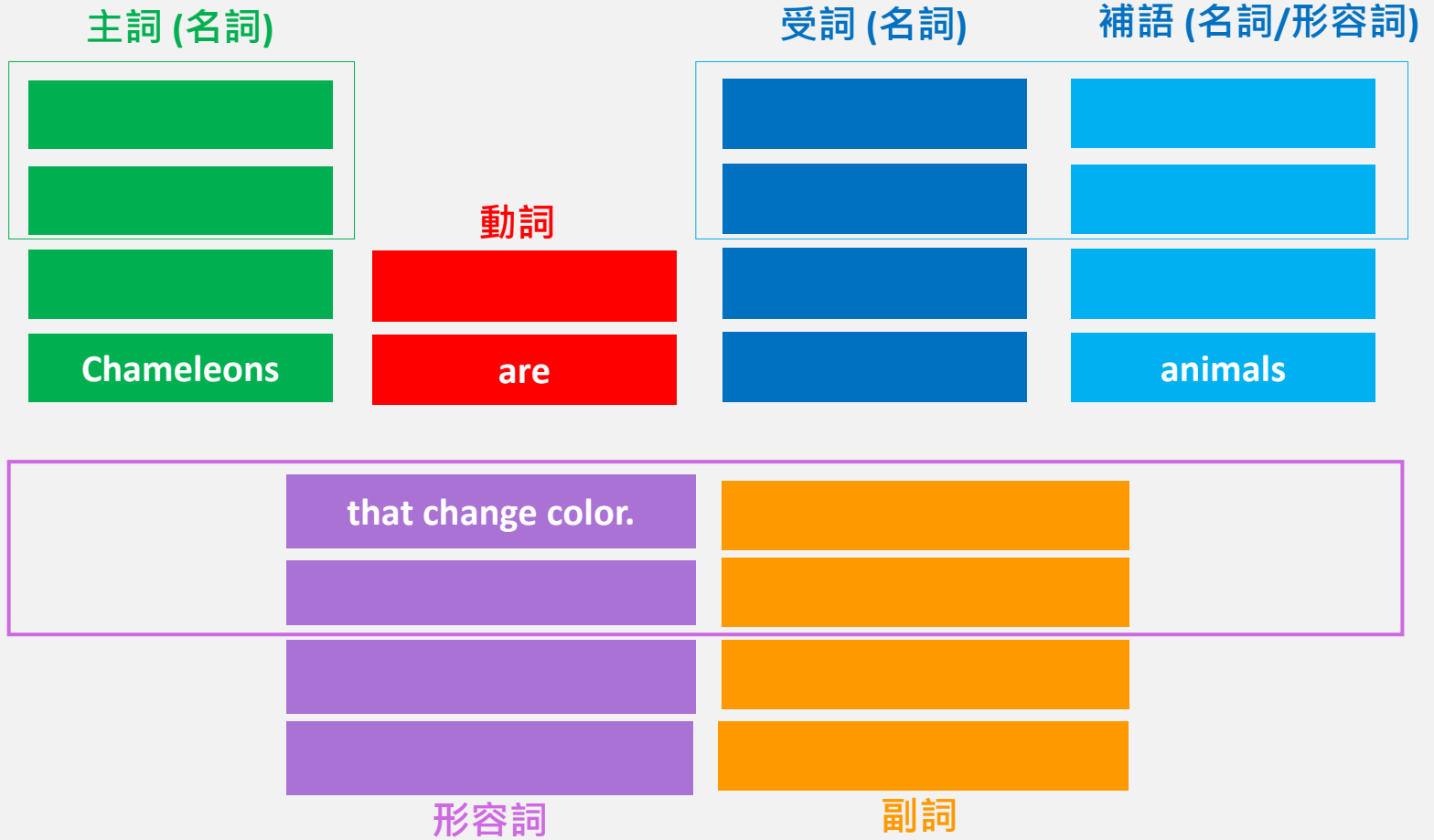
- Chameleons have the ability to change color.
- 變色龍有變色的能力。



- Chameleons are animals that change color.

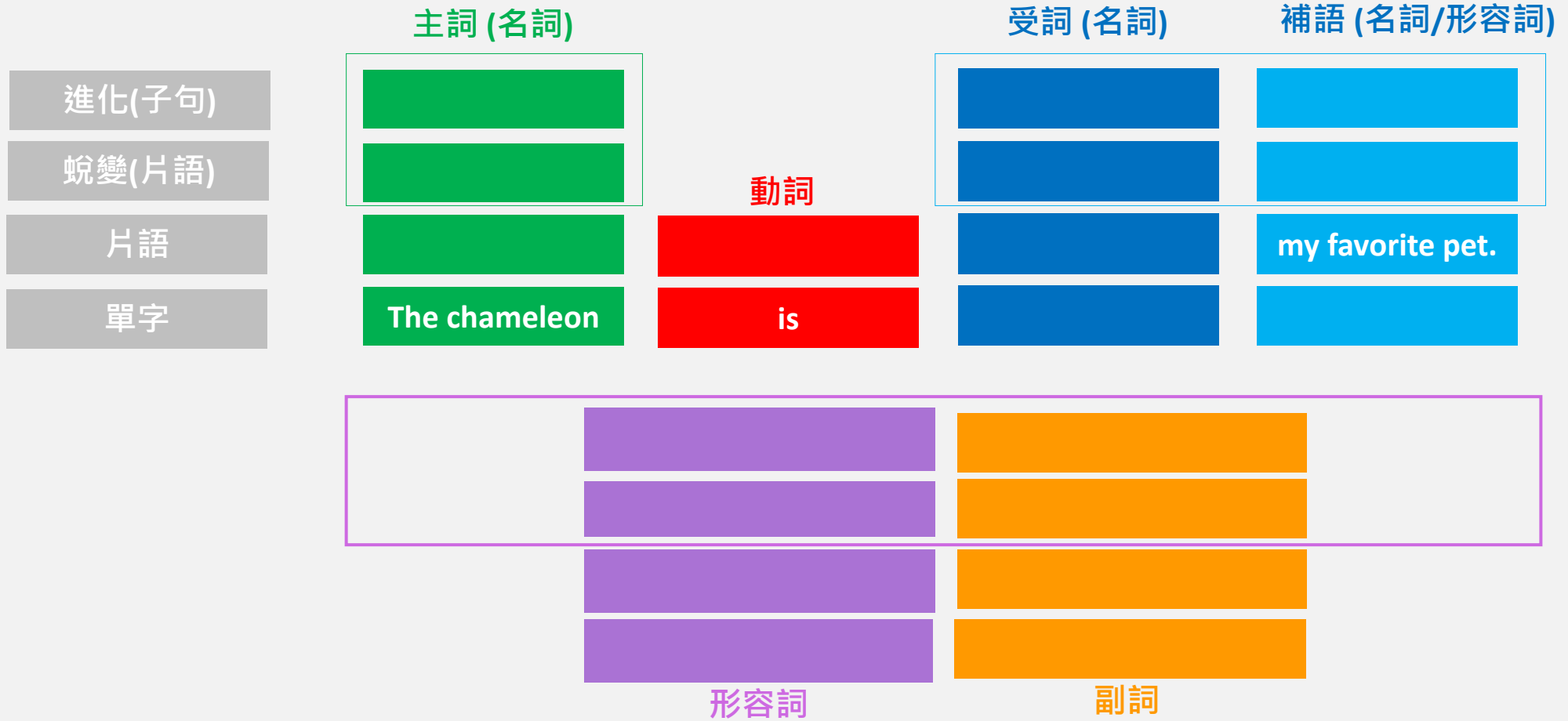
變色龍是一種會變色的動物。

- 進化(子句)
- 蛻變(片語)
- 片語
- 單字



- The chameleon is my favorite pet.

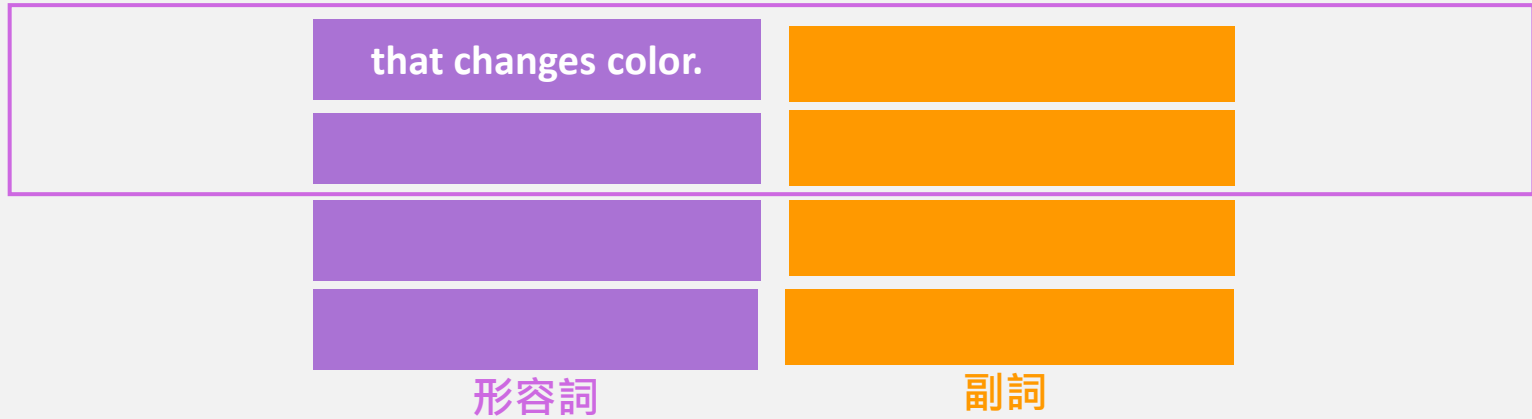
變色龍是我最喜歡的寵物。



- The Chameleon is an animal that changes color.

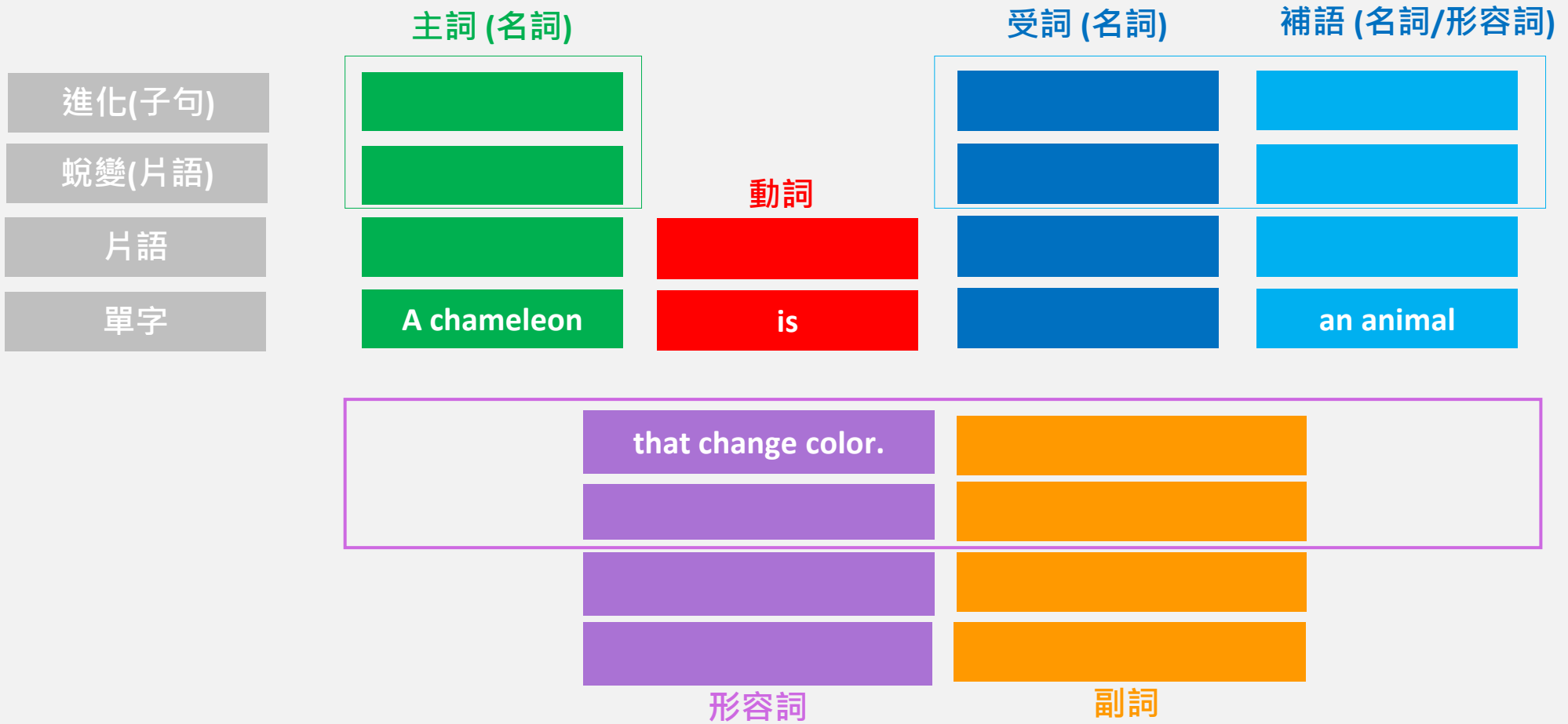
變色龍是一種會變色的動物。

- 進化(子句)
- 蛻變(片語)
- 片語
- 單字



- A Chameleon is an animal that changes color.

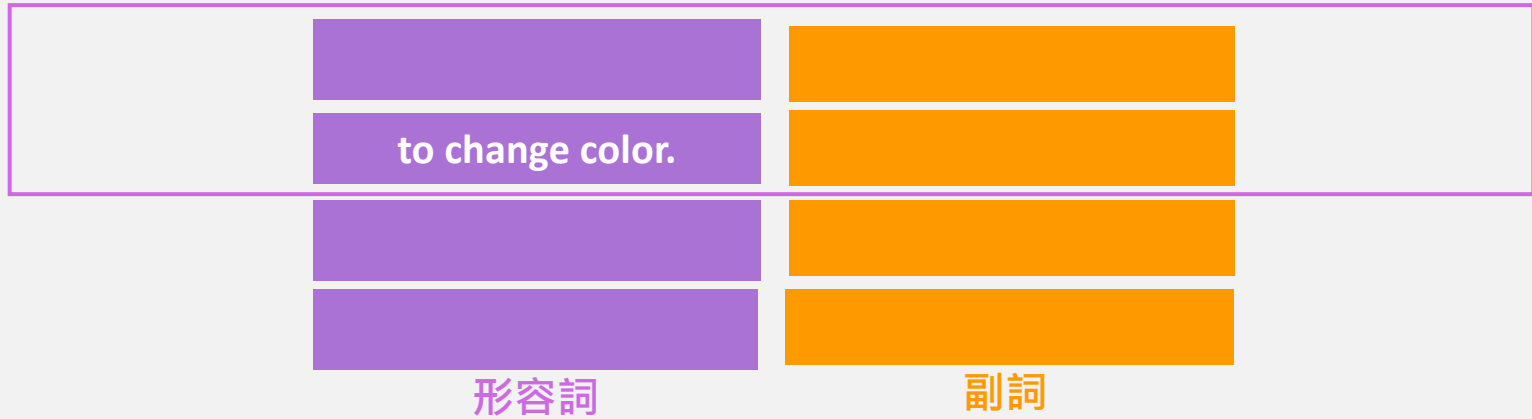
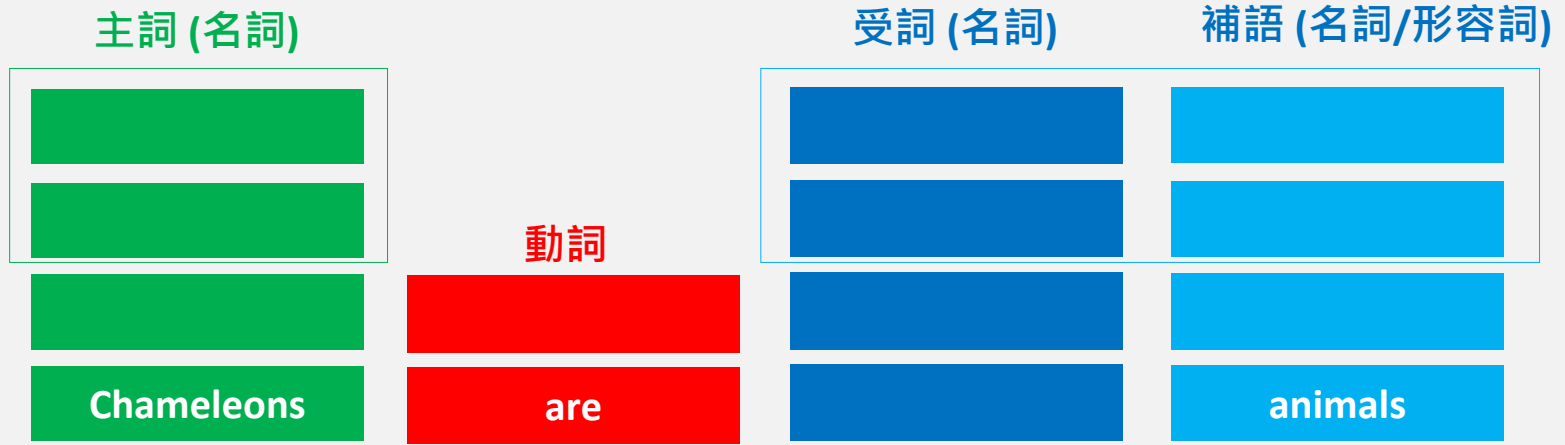
變色龍是一種會變色的動物。



X Chameleons are animals to change color.

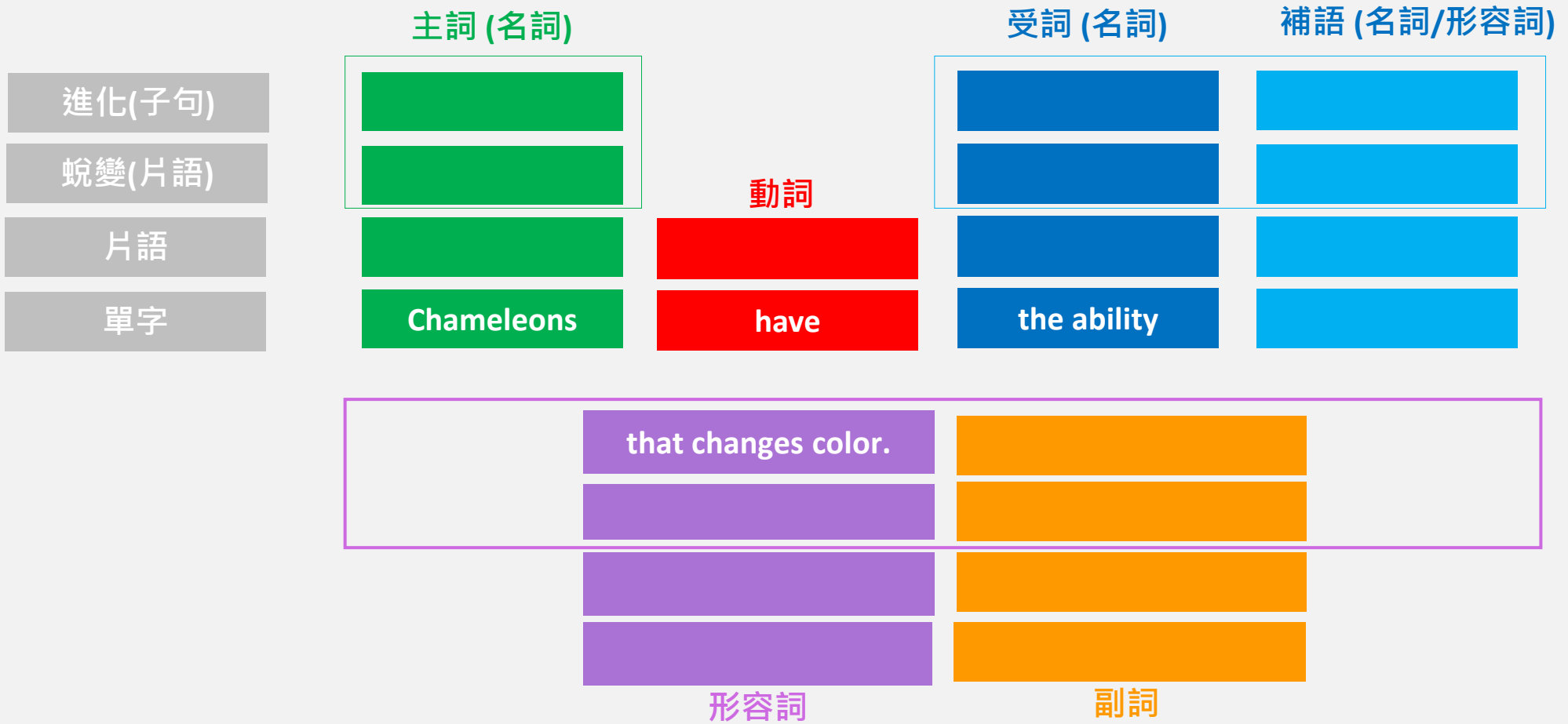
變色龍是變色的動物。

- 進化(子句)
- 蛻變(片語)
- 片語
- 單字



X Chameleons have the ability that changes color.

變色龍有一種能力會變色。



蛻變與進化 Change and Evolution

- Chameleons **have** an ability **to change color**. (O)
- Chameleons **have** an ability **that changes color**. (x)
- Chameleons **are** animals **that change color**. (O)
- Chameleons **are** animals **to change color**. (x)



- Chameleons **change color**.

My favourite Pet

By Ted Royer

My name is Ted. I am five years old. I have a pet dog. My mommy and daddy bought him for me for my birthday two years ago. His name is Rusty. **Rusty loves to bark and chase after cats**, but he hates having his bath. My mommy and I give Rusty his bath every Sunday. I love Rusty very much. He is my best friend.



我最喜歡的寵物

作者：泰德·羅伊爾 (*Ted Royer*)

我叫泰德，我今年五歲。我有一隻寵物狗。我的爸爸媽媽在兩年前為了慶祝我的生日送了牠給我。牠的名字叫做拉斯提。拉斯提喜歡吠叫，**還會追貓**，但牠討厭洗澡。每個星期天，我和媽媽會幫拉斯提洗澡。我非常愛拉斯提。他是我最好的朋友。

■ Four Sentences Relating to Nouns

1. Rusty loves to bark and chase after **cats**.

We don't know exactly how many cats Rusty chases.

The word "cats" is plural, but it doesn't necessarily mean he chases more than one cat at a time.

2. **A father** can also play the role of **a mother**.

In this sentence, "father" and "mother" refer not just to gender, but to the roles a person may take on.

3. Even in the game of **life**, Ohtani is hitting a home run!

This sentence compares life to a baseball game, meaning that Ohtani is succeeding not just in sports, but in life as a whole.

4. He walks **dogs** for **neighbors**.

We don't know exactly how many neighbors — only that it's more than one.

The sentence describes what he usually does, without specifying the exact number or timing.⁶³

■ 四個與名詞相關的句子解析

1. Rusty 拉斯提喜歡吠叫，還會**追貓**。

我們無法確定 Rusty 實際追了多少隻貓。

「cats」是複數形式，但這不一定代表他一次追不只一隻貓。

2. 父親也可以扮演母親的角色。

在這句中，「father (父親)」與「mother (母親)」不單指性別，而是指人們所扮演的**角色**。

3. 就連在**人生**這場比賽中，大谷也打出全壘打！

這句話將人生比作棒球比賽，意思是大谷不僅在球場表現出色，在人生中也一樣成功。

4. 他幫**鄰居遛狗**。

我們不知道他幫多少位鄰居遛狗，只知道不只一位。

這句話描述的是他的日常行為，而不是具體的數量或時間。

What?

a answers
what kind

How many?

one answers
how many

Q: What is on the desk?

A: A book.

Q: How many books are on the desk?

A: One book.

ROETL 

This is a book.

A book exists —
introduces the idea or object

Focus on what

This is *one* book.

Exactly one book exists —
emphasizes quantity or contrast

Focus on how many

ROETL 

ChatGPT: Thinking Softly, Exploring Deeply

Advanced English for Exhibition Narratives

漫話細說 ChatGPT — 展示館解說高階英語訓練

A: What are you eating?

你在吃什麼？

◆ 這裡問的是「吃的東西是什麼」。

B: I'm eating an apple.

我在吃 (一個) 蘋果。

👉 中文可理解為「一個蘋果」，但重點不是數量，而是這是什麼東西。

ChatGPT: Thinking Softly, Exploring Deeply

Advanced English for Exhibition Narratives

漫話細說 ChatGPT — 展示館解說高階英語訓練

A: How many apples do you want?

你想要幾個蘋果？ ◆ 這裡是問數量（how many）。

B: I want one apple. One is enough.

我想要一個蘋果。一個就夠了。

◆ 這裡的 “one” 強調「數量是一個」，是回應 how many 的明確數量。

👉 「一個蘋果」，但語意重點在「只有一個，不是兩個或三個」

Sentence

Meaning

Type

He plays **the piano.**

He plays the musical instrument.

Concrete (class)

He studies **piano.**

He studies the discipline of piano.

Abstract

He plays the piano.

演奏這項樂器

Concrete (具體) (類別)

He studies piano.

他學習鋼琴這門學科。

Abstract (抽象)

- ★ Countable nouns cannot stand alone unless used abstractly.
- ★ 可數名詞不可落單，除非用作抽象概念。

具體 - piano
concrete noun

He plays the piano every day. (S1)

- The kid plays. (S-1)
- The kid plays with a basketball.
- The kid plays with a soccer ball.

抽象 - basketball
abstract noun
落單 - standing alone

He plays basketball every day.

✓ “The piano” in “He plays the piano”

— always implies a physical instrument (even if abstracted as a general class).
It does not imply the discipline of piano-playing.

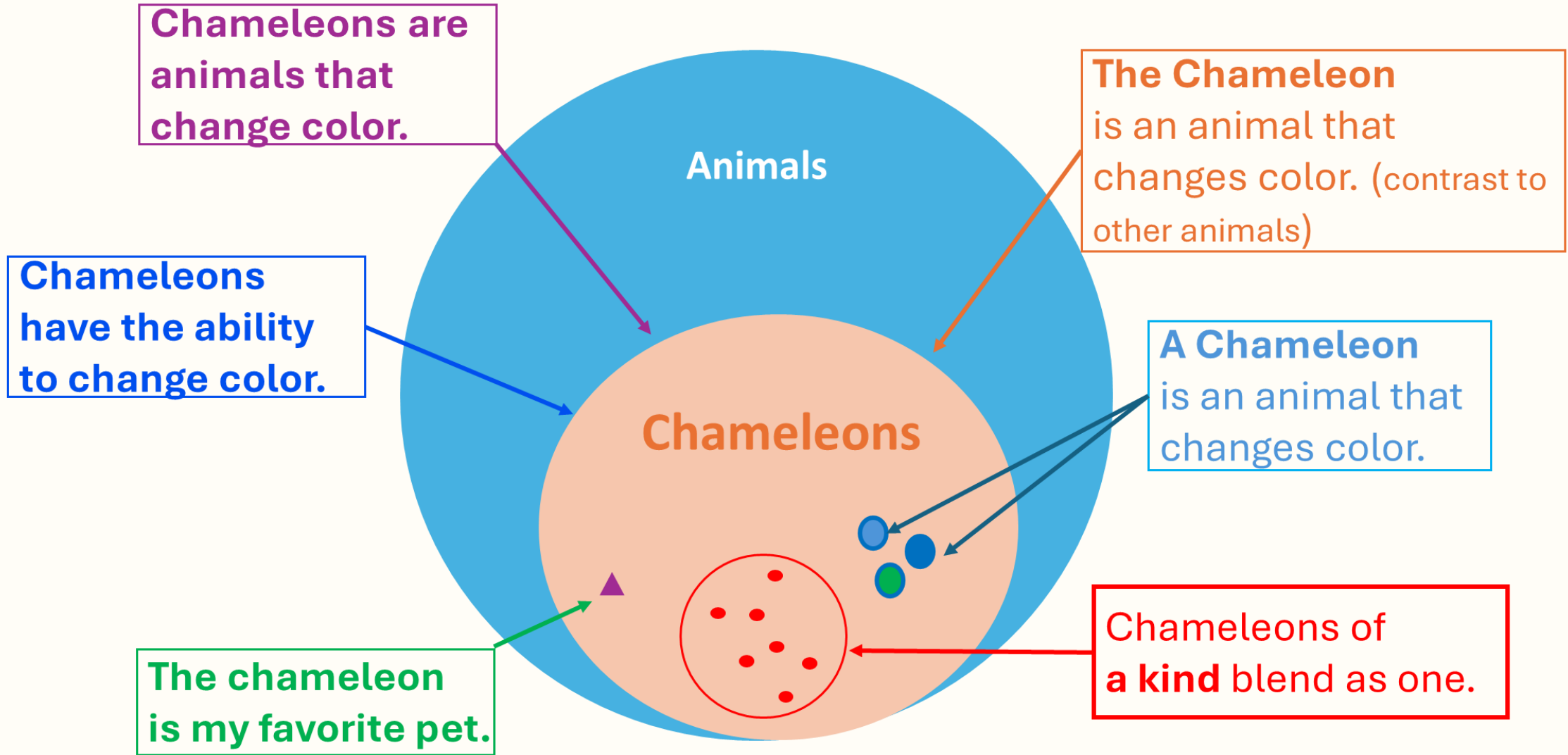
✓ Correct interpretation:

“He plays the piano” = 他彈鋼琴（指的是那種樂器，不是學科）

🧠 The noun “piano” is **countable**, and when preceded by “the”, it refers to the instrument.

“He plays the piano” = 他彈鋼琴（指的是那種樂器，不是學科）

🧠 名詞 “piano” 是可數名詞，當前面有 “the” 時，指的是「鋼琴這項樂器」。



Chameleon

(abstract concept)

日本农业航空

尹选春¹, 兰玉彬¹, 文

(1 国际农业航空施药技术联合实验室/农业航空应用

华南农业大学 工程学院, 广东 广州 510642; 2 华南

3 华南农业大学 数

摘要: 日本根据其地形、地貌特征、从事农业劳动的情

Abstract: According to the characteristics of topography and agricultural work in Japan, the aerial spraying method is mainly using unmanned helicopter. Several types of unmanned aerial vehicles, as R50, RMAX, RAMX II G and FAZER, have been generally used for plant protection. Japanese scholars did extensive research on aerial spraying technology and unmanned helicopter control technology. A practical unmanned aerial vehicle(UAV) for plant protection has been developed insuring the safety of agricultural aviation in Japan. This paper is aimed to provide introductory knowledge on its application area, precise spraying technology and management method, and developing agricultural aviation technology in China.

Key words: Japan; agricultural aviation; plant protection; precision agriculture; precision


Is it 'Key words' or 'Keywords' in a paper abstract?

Abstract: W...
of other sectors, the prop...
drogen, as a clean energy source...
key technologies for achieving low-carbon...
hydrogen applications in aviation propulsion...
cells, hydrogen turbines, and hydrogen...
challenges and solutions related to hydrogen...
gaseous hydrogen, cryogenic liquid hydro...
drogen infrastructure at airports and...
and propensity for hydrogen embrit...
gen safety are also discussed. Wit...
be widely adopted in the aviati...
Keywords: hydrogen; carbon...



詞語	類型	原因說明
defense technology	複合名詞 ✓	表示國防相關的技術範疇，是固定搭配
technological defense	描述性詞組 ✗	「技術性的防禦」描述一種防禦特性，語義為形容詞 + 名詞
defensive shield	描述性詞組 ✗	「防禦性的盾牌」屬於形容詞 + 名詞

Noun Phrase	Compound Noun?	Example
operating license	✗ No	He applied for an operating license. 他申請了一張營運許可證。
toothpaste	✓ Yes	I forgot to buy toothpaste. 我忘了買牙膏。
weapons systems	✓ Yes	The military developed new weapons systems. 軍方研發了新的武器系統。
system analysis	✗ No	The report includes a system analysis. 報告中包含了一項系統分析。

Term	Structure	Compound Noun?	Explanation
Structural analysis	Adjective + Noun	✗ No	Means "analysis related to structure"
System analysis	Noun + Noun	✗ No	Means "analysis of a system"
Weapons systems	Noun + Noun (pl.)	✓ Yes	A fixed technical term; often treated as unit
Toothpaste	Noun + Noun (fused)	✓ Yes 	Lexicalized, non-transparent compound

Universal Logic Applied to Three Similar Terms

English Forms vs. Traditional Chinese Interpretations

English Term	Word Class Logic	Translation (繁體中文)	Semantic Logic
System analysis	Noun + Noun (noun phrase) 名詞片語	(某) 系統的分析	An analysis <i>about a certain system</i> ; not a field
Systematic analysis	Adjective + Noun 名詞片語	系統性的分析 (系統性的方法)	A structured, methodical way to analyze; not related to "system" as a thing
Systems analysis	Plural Noun + Noun (compound noun) 複合名詞	系統化分析 / 從系統觀點的分析 	Analysis from a <i>systems perspective</i> (as in systems thinking); often a field of study

Through Translation Logic

《系统/系统性/系统化》的英文差异解密

**system
analysis**

(其)系统的分析

類似於系统的分析

**systematic
analysis**

系统性的分析

系统性的方法

**systems
analysis**

系统化分析

從系統觀點的分析

➤ **An analysis *about a certain system*; not a field**

對某一系統的分析；並非一門學科

➤ **A structured, methodical way to analyze; not related to “system” as a thing**

一種有系統、有方法的分析方式；與「系統」作為具體事物無關

➤ **Analysis from a *systems perspective* (as in systems thinking); often a field of study**

從「系統觀點」出發的分析（如系統思維）；通常是一門學科領域

Structural analysis

意指「與結構有關的分析」名詞片語

System analysis

意指「對一個系統的分析」名詞片語

Weapons systems

固定的技術術語；通常被視為一個單位

複合名詞

Toothpaste

已詞彙化的、不透明（無法直接拆解語意）

的複合詞

Language Is Logic – Not Just Rules

Focus on general principles and reasoning.

traditional rule will = be going to = *about to*
“The bus is about to leave.”
≠ The bus will leave.
‘About to’ indicates imminent action,
not equivalent to ‘will.’

can = be able to “He can swim.”
≠ He is able to swim in
rough water.
‘Can’ implies general ability,
not specific capability in conditions.

shall = will “You *shall* not pass!”
carries obligation, not prediction.
‘Shall’ (when stressed) is modal,
not necessarily interchangeable will?

ROETL 

語言是邏輯——不只是規則
重點在於通則與推理思維。

傳統規則 will = be going to = be
about to (將要) 「The bus is about
to leave. (公車即將離開) 」 ≠ The
bus will leave. (公車將離開)

“About to” 表示即將發生的動作，
並不同於 “will”。

can = be able to (能夠) 「He can
swim. (他會游泳) 」 ≠ He is able to
swim in rough water. (他能在激流
中游泳) “Can” 表示一般能力，而
非在特定條件下的能力。

shall = will (將) 「You shall not
pass! (你不得通行！) 」表示義
務，不是預測。“Shall” 在強調語
氣時具有情態功能，並不一定能與
“will” 替換使用。

A universal rule can help logically reason and understand unfamiliar sentences—or even create new ones.

- You may never have learned the sentence “He plays piano perfectly,” but if you know that a countable noun can stand alone when it implies an abstract discipline, you’ll realize why “piano” is article-less.
- Or you may come across “weapons systems” for the first time, but if you understand that the first noun describes the category and may be plural to match the concept, you can still grasp the meaning.

It’s about having a reasoning framework, not memorizing everything.

通用法則能有助於邏輯推理與理解不熟悉的句子——甚至造新的句子。

- 你或許從未學過這句話：「He plays piano perfectly (他鋼琴彈得很完美)」，但如果你知道可數名詞在表示抽象領域時可以單獨使用，那你就會明白為什麼 “piano” 不加冠詞。
- 又或者你第一次看到 “weapons systems (武器系統)” 這個詞，但如果你了解第一個名詞是用來描述類別，並且可以用複數來符合概念，你依然能掌握其含義。

重點在於擁有一套推理架構，而不是死記所有內容。

Noun Reference Scope Narrowing

general (class)

Chameleons are animals
that change color.

representative (type)

A chameleon is so unique
that it can be a pet.

specific (particular)

The chameleon is really
unique; it changes color
magically.

名詞涉及的範圍逐漸縮小

- 一般性 (類別)

變色龍是會變色的動物。




- 代表性 (種類) (第 1 次提及)

變色龍非常特別，以致於可以當
寵物。

- 特定性 (特指個體) (最後確定)

這隻變色龍真的很特別；牠會神
奇地變換顏色。

Structural analysis vs. Structure analysis

Phrase	Part of Speech Pattern	Compound Noun?	Meaning
Structural analysis	Adjective + Noun	 No	An analysis <i>related to structure(s)</i> — broader, often a method or discipline (e.g., in engineering, linguistics).
Structure analysis	Noun + Noun (compound)	 Yes 	An analysis of <i>a specific structure</i> — narrower, concrete, e.g., analyzing a bridge or DNA structure.

Example Comparison:

-  *The engineer performed a **structural analysis** of the bridge design.*
-  *They conducted a **structure analysis** of the collapsed tunnel.*

Structural analysis | 形容詞 + 名詞 | (名詞片語) 與結構相關的分析——意義較廣，常用於方法或學科（如工程學、語言學）之中。

Structure analysis | 名詞 + 名詞（複合名詞）針對特定結構的分析——意義較窄、具體，例如分析橋樑或 DNA 結構。 |

✓ The engineer performed **a structural analysis** of the bridge design.

✓ 工程師進行了橋樑設計的結構性分析。（較廣義，強調方法或學科上的分析）

✓ **They conducted a structure analysis of the collapsed tunnel.**

✓ 他們針對坍塌的隧道進行了結構分析。

（較具體，針對特定結構進行檢查）

Phrase	Common Usage?	Meaning & Implication
Operations center	✔ Yes	Widely used term; refers to a central hub that manages or monitors multiple ongoing operations (e.g., military, emergency response, corporate network operations).
Operation center	⚠ Rare / Narrow	Grammatically possible, but less common. Usually implies a center for a specific operation (e.g., a single mission or surgical procedure). It may sound awkward or unclear to native ears.

Operations center

Widely used term; refers to a central hub that manages or monitors multiple ongoing operations (e.g., military, emergency response, corporate network operations).

→ 常見用語，指的是一個中央中樞，負責**管理**或**監控多項正在進行的作業**（例如：軍事行動、緊急應變、企業網路作業）。

Operation center

Grammatically possible, but less common. Usually implies a center for a specific operation (e.g., a single mission or surgical procedure). It may sound awkward or unclear to native ears.

→ 文法上可行，但使用頻率較低。通常指**某項特定作業的中心**（例如：單一任務或外科手術）。對母語人士而言可能聽起來彆扭或不清楚。

CEO Jason's Keynote Speech

– Agentic AI as the next wave of artificial intelligence

- The process of token generation as the foundation of reasoning in LLMs
- Agentic AI powering applications like
 - Humanoid robots
 - Autonomous vehicles
- Evolution: from passive models to active, decision-making agents

執行長 Jason 的主題演講

– Agentic AI 作為人工智慧的下一波浪潮

- **生成詞元**的過程，是大型語言模型推理的基礎
- Agentic AI 驅動的應用包括：
 - 類人型機器人
 - 自主駕駛車輛
- 發展趨勢：從被動模型進化為主動、具決策能力的智慧代理

GTC 2025 Keynote Introduction

This is how intelligence is made a new kind of *factory generator of tokens the building blocks of AI. Tokens* have opened a new frontier the first step into an extraordinary world...

這就是智慧如何被創造出來——一種全新的工廠，專門生成「語符」（token），也就是人工智慧的基本構成單位。
語符開啟了一個全新前沿，是邁入奇異世界的第一步.....

人工智慧時代的演進 - 從代理人邁向「生成式」與「Token驅動」智慧

- ◆ 代理式 AI 時代

任務導向的人工智慧代理人協助執行特定角色的年代。

- ◆ **2017 — 生成式突破**

Google Research 發表〈[Attention Is All You Need](#)〉論文，開啟以 Transformer 為基礎的生成式 AI 新紀元。

- ◆ **2019 — 生成式聊天機器人興起**

OpenAI 引領生成式對話代理人時代，重塑人機互動方式。

人工智慧時代的演進 - 從代理人邁向「生成式」與「Token驅動」智慧

- ◆ **2024.06.23 — 宣布「代理式 AI」**

於 COMPUTEX 2024，NVIDIA 執行長黃仁勳首次提出「Agentic AI」概念，強調自主性與行動力。

- ◆ **2025.06.23 — Token Generation 引領未來**

黃仁勳於 NVIDIA Keynote 再次強調，Token 生成將成為下一波 AI 時代的驅動核心。

- ◆ **Agentic AI**

According to the official **COMPUTEX 2025** summary from NVIDIA, Huang introduced “Agentic AI” during his keynote in Taipei

- ◆ **Token Generation**

During the GTC 2025 keynote, Huang stated:

“This is how intelligence is made, **a new kind of factory generator of tokens, the building blocks of AI... Tokens... are the product.**”

“The more tokens you can generate — and the faster you can reason — the more revenue your factory produces

- ◆ **代理型 AI (Agentic AI)**

根據 NVIDIA 在 2025 年 COMPUTEX 官方總結，黃仁勳在台北的主題演講中提出了「代理型 AI」(Agentic AI) 的概念。

- ◆ **詞元生成 (Token Generation)**

在 GTC 2025 的主題演講中，黃仁勳表示：

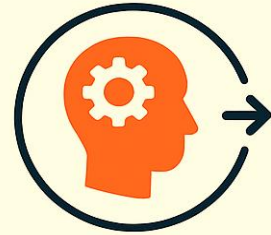
「這就是智慧的生成方式，一種全新的工廠——詞元的產生器，它們是 AI 的基本組塊.....詞元就是產品。」

「你能生成的詞元越多——推理的速度越快——你的工廠就能產出更多收益。」

English Term	Traditional Chinese Translation	Remarks
Agentic AI	代理式人工智慧 / 具代理性的人工智慧	"Agentic" comes from "agency," not "agent."
Autonomous Action	自主行動	Closely tied to robotics and multi-step agents
Autonomous Thinking	自主思考	Emphasizes cognitive agency (reasoning ability)
Agency	主動性 / 行動力 / 決策權	A sociocognitive term, more abstract

Characteristics of Agentic AI

Autonomous Thinking and Action Force



- ✓ **Autonomous Thinking**
Refers to AI's goal-directed reasoning and decision-making abilities, enabling strategic planning and dynamic adjustment.
- ✓ **Autonomous Action**
Means AI can perform entity-based or virtual actions independently based on goals, input, and feedback.



具代理性 AI 的特徵

自主思考與行動力量

- **自主思考**
指的是 AI 具有以目標為導向的推理與決策能力，能夠進行策略規劃與動態調整。
- **自主行動**
表示 AI 能根據目標、輸入與回饋，獨立執行實體或虛擬的行動。

Before the Exhibition Narrative

展場導覽前準備

1. Watch and Listen : 觀看與聆聽

Focus on the video “Making the Met” to grasp the big picture and key themes.

請觀看影片《打造大都會》，掌握整體概念與核心主題。

2. Review the Exhibition Section : 閱讀展區內容

Go through the narrative document and content for a full understanding.

仔細閱讀展覽導覽文件與內容，以獲得完整理解。

3. Listen Carefully : 專心聆聽

Pay attention to the voice and tone of the section you're guiding.

留意您所導覽展區的語氣與聲音表現。

Exhibition Narrative - Making the Met

「他山之石，可以攻錯。」

➤ [Exhibition tour: Making the Met](#) by Steve Martin, 2022

➤ 大都會藝術博物館（英語：Metropolitan Museum of Art，暱稱The Met）位於美國紐約州紐約市曼哈頓中央公園旁，是世界上最大的、參觀人數最多的藝術博物館之一。



能量展示館解說

voice: 航空能量1_2_3_4

展示解說與英語能力提升 <全書 – 內含語音>

史政展示 - voice

Historical Events

各位長官、貴賓大家好，歡迎來到史政展示區，我是 [名字]，很榮幸為各位介紹中科院的發展與歷史。

Distinguished guests and officials, welcome to the Historical Events Section. ***My name is*** [Name], ***and I am honored to introduce*** the development and history of the National Chung-Shan Institute of Science and Technology (NCSIST).

中科院成立於1969年，主要任務為建立國家自主國防科技研發、國防人才的培育，及先進武器系統與裝備的研發、製造、及生產。

這是本院的組織架構，由董事長及院長推動本院各項事務。本院設有營運中心及研發部門，包括六個專業研究所負責各項科技研發，以及五個系統發展中心負責專案的執行、系統整合與維護、製造與生產。

The National Chung-Shan Institute of Science and Technology (NCSIST) was established in 1969. Its primary missions *are to develop* autonomous national defense technology, *cultivate* defense talent, and research, develop, manufacture, *and produce* advanced weapons systems and equipment.

This is our organizational structure, led by the Chairman and the President, *who* oversee all institute affairs. *We have an operations center and R&D departments*, including six *specialized* research institutes *responsible for* various technological research and development, and five system development centers *responsible for* project execution, system integration and maintenance, and manufacturing and production.

接著各位可以看到展區的中央，這是等比例的雄風一型飛彈模型。此為本院初創時期研製成功的第一代飛彈，具有相當重要的意義。所以，特別置於史政展示區，作為我們對國防武器自主研發的重要信念與象徵。

Next, you can see in the center of the exhibition area a full-scale model of the Hsiung Feng I missile. *This was* the first-generation missile successfully developed by our institute during its early years, *holding* significant importance. *It is specially placed* in the historical events section *as a symbol of our commitment* to the autonomous development of national defense weapons.

接著要特別提到，在當時有兩位優秀的工程師。由於他們不辭辛勞的投注在研發任務上，日以繼夜，終至積勞成疾，而於同一年相繼離世。為了紀念這兩位資深的工程師，同事們特地至大漢溪河床尋找兩塊大鵝卵石，刻上他們的名字燕漢和鴻旭，並撰文立碑，永誌紀念。

各位可以看到，這兩位雄風計畫的守護神燕漢先生、鴻旭先生，以及雄風飛彈之父韓光渭先生。

I would like to highlight two outstanding engineers from that time. Due to their tireless dedication to the research and development tasks, working day and night, they *eventually succumbed to overwork and passed away* in the same year. To *commemorate* these senior engineers, their colleagues went to the Dahan Riverbed and found two large pebbles, *inscribed* their names, Yan-Han and Hong-Xu, and *erected a monument* with an inscription to honor their memory forever.

Here, you can see Mr. Yan-Han and Mr. Hong-Hsu, *the guardians of* the Hsiung Feng project, *along with* Mr. Han Guang-Wei, *the father of* the Hsiung Feng missile.

還有這位伍克振上校，他擔任IDF經國號戰機試飛測試任務，但是在一次試飛時，飛機機械故障；而他為了收集更多的數據，結果不幸殉職了。

我們非常感謝這些前輩們，在當時有限的經費、物資與設備的環境下，不遺餘力，投入心血在國防科技發展上，我們才有今日的成果。

And this is Colonel Wu Ke-Zhen, who was responsible for the flight testing of the IDF Ching-Kuo fighter jet. During one of the test flights, the aircraft experienced a mechanical failure. In his effort to gather more data, he tragically lost his life.

We are deeply grateful to these pioneers. *Despite the limited* budget, resources, and equipment at that time, they *dedicated their efforts* tirelessly to the development of national defense technology. *It is because of* their hard work and dedication *that* we have achieved our current success.

接下來，各位可以看到牆上顯示本院研發的里程碑，依時間軸可分為四個階段：

- 50到70年代為網羅人才、設施與制度建立的奠基階段。
- 70到80年代為黃金階段，致力於「三彈一機」發展，成功研發天弓、天劍、雄風飛彈與IDF經國號戰機。

Next, you can see the milestones of our institute's development *displayed on the wall*. It can be divided into four stages *along the timeline*:

- The 1960s (民國50年代) were the foundational stage *focused on* recruiting talent, establishing facilities, and creating systems.
- The 1970s (民國60年代) were the golden stage *dedicated to* the development of the "Three Missiles and One Aircraft," successfully developing the *Sky Bow, Sky Sword*, and Hsiung Feng missiles, *as well as* the IDF Ching-Kuo fighter jet.

新新114年4月號（待續）

P101 / 渦輪引擎燃油噴嘴發展現況與應用

Development of Critical Technology for An Non-ejectable Inlet Cover of Ramjet Engine

➤ **Development of Critical Technology for a Non-ejectable Inlet Cover of a Ramjet Engine**

衝壓引擎非拋棄式進氣口蓋關鍵技術之研發

新新114年4月號（待續）

P101 / 渦輪引擎燃油噴嘴發展現況與應用

第 3 行

...before an engine reaches flight speed for operation, the inlet must be closed by **cover**, which is removed once the **operation condition** is met.

➤ ...before an engine reaches flight speed for operation, the inlet must be closed by a **cover**, which is removed once the **operating condition** is met.

在引擎達到可運轉的飛行速度之前，進氣口必須以蓋板封閉，並在達到運轉條件後移除。

第 4 行

In closed condition, inlet cover must protect the interior of inlet from external airflow and foreign objects...

- In the closed condition, the inlet cover must protect the interior of the inlet from external airflow and foreign objects...

在封閉狀態下，進氣口蓋必須防止外部氣流與異物進入進氣口內部。

P85 / 固體木箭發動機之測試數據分析及內建彈道重建案例探討


第 3 行 (自己寫的)

Special cases are sometimes immediately obvious and very striking; at other times, they require a deeper examination of the data **to be discovered**. (語意不正確)

➤ *Some special cases are immediately apparent, while others require in-depth data analysis to uncover. (some... others)*

Special cases are sometimes immediately obvious and very striking; **at other times**, they require a deeper examination of the data **to be discovered**.


有些特殊情況有時會立即顯而易見且非常醒目；但在其他情況下，則需要更深入地檢視資料來發現資料本身。

 錯誤說明：

句末的“to be discovered”修飾的是「data」，變成「資料要被發現」，而不是「透過資料去發現特殊情況」，造成語意偏差。

Some special cases are immediately apparent, while others require in-depth data analysis to uncover.

有些特殊情況可以立即察覺，而另一些則需透過深入的資料分析才能發現。

 正確語意：

“to uncover” 意指「為了發現（那些特殊情況）」，語意清楚且自然。

新新114年4月號（待續……）

Thank You

