



Learning an LSA tool in 40 min

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E-LARSP

An introduction to LARSP

- LARSP (Language Assessment, Remediation and Screening Procedure) (Crystal, D., Fletcher, P., Garman, M., 2nd edition, 1989);
- Deals only with grammar (morphology and syntax);
- On the basis of grammatical descriptions from A Grammar of Contemporary English (Quirk, R., Greenbaum, S., Leech, G. and Svartvik, J., 1972)

E-LARSP

1. **Complex sentences** are analyzed in clauses;
2. **Clause**: subject (S), object (O), verb (V), etc.
3. **Phrase**: noun phrase (NP), verb phrase (VP), etc.
4. **Word**: inflections like plural (*pl.*), past tense (*-ed*), third person singular (*-s*), etc.

E-LARSP

The boys saw a big dog.

clause level S V O .

phrase level D N D Adj N

word level pl -ed

expansions XY + S:NP, XY + O: NP

The notion of linguistic profile

A linguistic profile should

- provide a comprehensive description of P's (pupil or patient) data;
- provide a principled grading of the data;
- show the influences operating on P, as he interacts with T (teacher or therapist), the clinical setting, and the clinical materials and so on. (*Crystal et al.*, 1989)

E-LARSP

The E-LARSP profile

➤ A, B, C, D sections (Crystal, 1979, P25-60);

➤ Stage division

● Seven stages are divided arbitrarily along the continuous process of syntactic development on the account of:

1) theoretical justification;

2) pragmatic justification;

E-LARSP

- The seven stages start from 0;9 (nine months) to 3;6 with 6-month interval in the first five stages, the sixth stage runs from 3;6 to 4;6, and the last stage is above 4;6;
- Items: predictive and productive
 - e.g. V (kick) at Stage I can further developed into SV (daddy kick), VO (kick ball) at Stage II

Sentence categorization: minor and major

➤ Minor: lack SV pattern; if they do have, it tends to be fixed.

e.g. *Yes. Oh! Hello.*

First come, first served.

➤ Four types of minor utterances:

- Responses: response to a question;
- Vocatives: calling a name;
- Other: counting or singing;
- Problems: unclear whether it is minor or major.

E-LARSP

- Major: Elements are able to combine with other elements to produce an indefinitely large set of sentences.

e.g.

John kicked the ball.

All the children came in when the teacher called.

Major sentence analysis

- Major sentences are recognized into four main functions:
statements, questions, command, and exclamations;
- and are analyzed by recognizing four levels:
sentence connection; sentence/clause; phrase; word.

- **Clause structures** are defined with reference to clause functional categories such as 'subject'(S), 'verb'(V), 'object/direct object and indirect object'(O/Od/Oi), 'complement' (C), and 'adverbial' (A) (Quirk *et al.*, 1972)

e.g. *I kicked him.*

S V O

E-LARSP

The big boy saw the little girls.

S V O

I gave a book to the girl.

S V Od Oi

This is an apple.

S V C

They made him a doctor.

S V O C

He put it on the table.

S V O A

He walked home quickly at three o'clock.

S V A A A

E-LARSP

- **Multiple sentences** consist of more than one clause, but each clause is of exactly the same basic pattern, linked by a coordinating device, symbolized here with a small c (e.g. *and, or*) or s (e.g. *because, how, that* etc.). e.g.

John came at three and we came later.

S

V

A

c

S

V

A

E-LARSP

e.g. Mary ran because she was late.

S

V

A

s

S

V

C

John asked him what he wanted.

S

V

Oi

Od

s

S

V

E-LARSP

- **Phrase structures**, the element of the clause structure, are recognised as NP, VP, PP etc.. Phrase categories are further analyzed into parts of speech.

E.g. The big boys came.

C: S V

P: D Adj N v

1.5 Limitations of the direct application of E-LARSP to Chinese

Chinese Complex sentences;

e.g. 追貓隻狗好肥。(simple sentence?)

The dog that chases the cat is very fat.
(subordinative clause)

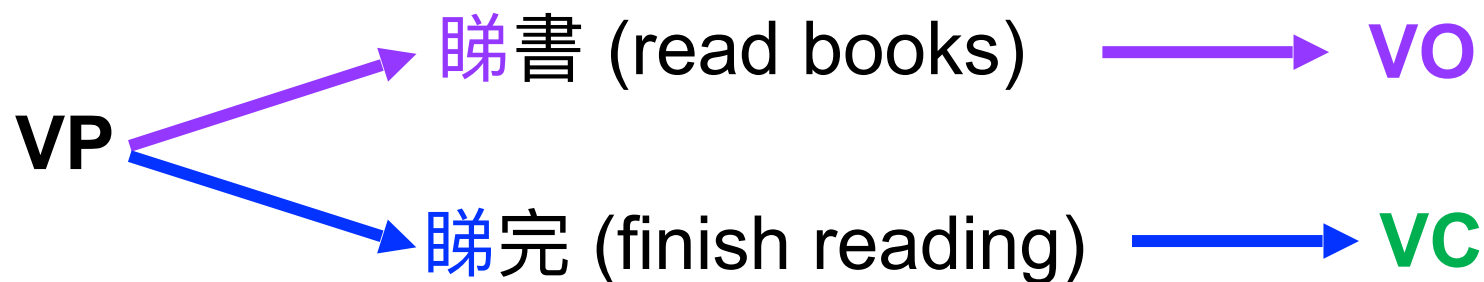
e.g. 佢高，佢矮，佢靚，佢醜。

e.g. 我請佢食飯

e.g. 架車整好

E-LARSP

Chinese word, phrase, clause and sentence structures are basically the same (Zhu, 1982). Chinese phrases sharing with the same head word may not be constructed in the same way. E.g.



開飛機



Clause

開飛機好容易



Phrase

Other LARSPs

- Twelve LARSPs: Hebrew, German, Dutch, Welsh, Bengali, Irish, Persian, Frisian, Chinese, French, Spanish, and Turkish.
- The C-LASRP: Jin, L. X., Oh, B. L., and Razak, R. A. (2012) develop the LARSP in Chinese version (C-LARSP) on the basis of the data from Chinese-speaking children in Malaysia by adapting E-LARSP framework.

C-LARSP

SVOiOd

媽媽 給 了 我 一塊 蛋糕。

主述雙賓語

māma gěi le wǒ yīkuài dàngāo

Zhushushuangbinyu

C: S V Od Oi

Double objects
constructions

Mama give am I one piece cake

C: clause level

P: NP VP NP NP

P: phrase level

cl: classifier

W: word level

n v am pron cl n
W: am

‘Mama gave me a piece of cake’

C-LARSP

Limitation of C-LARSP

- Lack of some expected specific Chinese constructions like *ba* construction and *bei* (passive) construction;
- However, *ba* construction is produced by Chinese-speaking children in China as early as 2;0 (Li, 1995).

An Introduction to CanLARSP

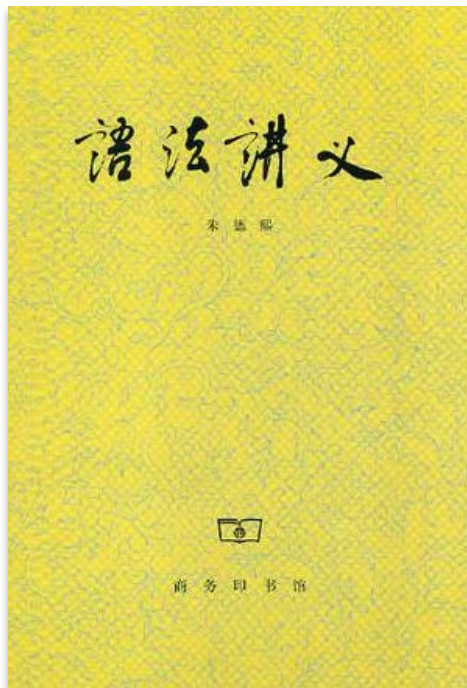
Can-LARSP

The Cantonese LARSP: A Procedure for Assessment and Remediation for Cantonese-speaking Children (Leung & Li, 2016)

Can-LARSP

- ◆ Zhu Dexi's phrase-based grammar approach
- ◆ 119 speech samples

Zhu (1982)



Cheung (2007, 2nd edition)



Six basic syntactic structures (SS)

	Items	Abbr	Examples
1	Subject-Predicate Construction 主謂結構	SP	飛機起飛 (<i>fey1gey1 hey2fey1</i> , 'the airplane takes off')
2	Verb-Object Construction 動賓結構	VO	食蘋果 (<i>sek6 penk4guo2</i> , 'to eat apple')
3	Verb-Complement Construction 述補結構	V ^C	洗乾淨 (<i>say2 gon1jenk6</i> , 'to wash cleanly')
4	Modifier-Head Construction 偏正結構	MH	大蘋果 (<i>dai6 penk4guo2</i> , 'big apple')
5	Serial Verb Construction 連謂結構	V ₁ V ₂	用啲錢買樓 (<i>yonk6 di1 cin4 mai5 law4</i> , 'to buy a flat with the money')
6	Coordinate Construction 聯合結構	Coord ₁ Coord ₂	佢同我 (<i>koy5 tonk4 ngo5</i> , 'he and me')

Exercise 1

Zhu (1982)

Six basic syntactic structures (SS)

	Items	Abbr	Examples
1	Subject-Predicate Construction 主謂結構	SP	飛機 起飛 S P
2	Verb-Object Construction 動賓結構	VO	食 蘋果 V O
3	Verb-Complement Construction 述補結構	V ^C	洗 乾淨 V C
4	Modifier-Head Construction 偏正結構	MH	大 蘋果 M H
5	Serial Verb Construction 連謂結構	V ₁ V ₂	用啲錢 買樓 V ₁ V ₂
6	Coordinate Construction 聯合結構	Coord ₁ Coord ₂	佢 同 我; 研 究 Coord ₁ Coord ₂ Coord ₁ Coord ₁

Zhu (1982)

14 basic syntactic structures (SS)

2 clausal structures

Top-Com

SP

14 phrasal structures

1. SP

2a. VO

2b. VOdOi

2c. VOiOd

3. VC

4a. M(attri)H

4b. M(adv)H

4c. M(appo)H

4c. M(neg)H

5a. V₁V₂

5b. V₁o/sV₂

6. Coord₁Coord₂

7. PrepO

8. Top-Com

Exercise 2

Topic-Comment

Topic-Comment construction (Top-Com, 主題評述結構)

Chinese: a topic-comment prominent language

- The topic of a sentence is what the sentence is about. (Li & Tompson, 1981, p15)
- What distinguishes topic from subject is that the subject must always have a direct semantic relationship with the verb as the one that performs the action or exists in the state named by the verb, but the topic need not.” (Li & Tompson, 1983, p116.)

Topic-Comment

- 1). 車車 (Top) | 我都玩呀 (Com)。
- 2). 架車 (Top) | 整好喇 (Com)。
- 3). 花 (Top), | 我最鍾意玫瑰花 (Com)。
- 4). 爹哋 | 咩生果 (Top) | 都鍾意食 (Com)。
- 5). 我 | 英國 (Top) | 未去過 (Com)。

Subject-Predicate SP

- 1). 飛機 (S) | 起飛 (P)。
- 2). 媽媽 (S) | 搵車 (P)。
- 3). 地鐵 (S) | 去唔倒 (P)。
- 4). 我屋企 (S) | 好大㗎 (P)。

Verb-Object VO, VOdOi, VOiOd

- **Verb-Object structure (VO, 述賓結構)**

- 1). 妹妹 **食 (V)** | **蘋果 (O)** 呀。
- 2). 佢 **買 (V)** 咗 | **套城堡 (O)** 㗎?
- 3). 我喺屋企 **鐘意 (V)** | **食嘢 (O)** 呀。

- **Double object construction**
(VOdOi/VOiOd, 雙賓語結構)

- 4). 我 **俾 (V)** 咗 | **一支筆 (Od)** | **佢 (Oi)**。
- 5). 你 **爭 (V)** | **我 (Oi)** | **三蚊 (Od)**。

Modifier-Head M(attri)H

- Attributive modifier-head structure (M(attri)H, 定中結構)

6). 呢個 (M(attri)) | 火車 (H) 好嘈呀。

7). 我 (M(attri)) | 間房 (H) 好大㗎。

8). 弟弟睇緊 後面 (M(attri)) | 嗰個汪汪 (H) 。

9). 佢啱啱食咗 一個 (M(attri)) | 大蘋果 (H) 。

Modifier-Head M(adv)H, M(app)H, M(neg)H

- Adverbial modifier-head structure (M(adv)H, 狀中結構)

10). 佢跑得 好 (M(adv)) | 快 (H) 㗎。

11). 呢個玩具 可以 (M(adv)) | 玩 (H) 。

? A(adverb) in E-LARSP

- Appositive modifier-head structure (M(appo)H, 同位結構)

12). 我 (M(appo)) | 自己 (H) 玩㗎。

- Negative modifier structure (M(neg)H, 否定結構)

13). 佢 唔 (M(neg)) | 食 (H) 呀。

Verb-Complement VC

- 14).媽咪 洗 (V) | 乾淨 (C) 啲菜。
15).我 切 (V) | 唔 (infix) | 開 (C) 呢個番茄呀。
16).佢梗係 聽 (V) | 得 (infix) | 明 (C) 啦。
17).叉叉 擺 (V) | 喺碟度 (C) 啦。

In Chinese the C refers to something which complements the verb whereas in English the C actually complements the subject. By nature, they seem to be different.

In other words, 補語C here is different from complement C in English (Eng LARSP as well as in C-LARSP).

V carries a heavier load of the meaning of the sentence.

Serial Verb V_1V_2

- 1). 我哋等陣 出去 (V_1) | 玩 (V_2), 好唔好呀?
- 2). 姐姐同我一齊 去大家樂 (V_1) | 食嘢 (V_2) 㗎。

- **Existential sentence (存現句)**

- 3). 我屋企 有煮飯仔 (V_1) | 玩 (V_2) 㗎。
- 4). 呢度 有嘢 (V_1) | 睇 (V_2) 㗎。 (Zhu, 1982, pp.168)

The second V (V_2) carries a heavier load of the meaning of the sentence

Prepositional objective phrase PrepO

“介詞結構出現在連謂式中，只能出現在第一位置。” (Cheung, 2007, pp. 256) . The PrepO is the sub-structure of V_1 in 連謂結構

22). 嗰個哥哥 嚟 (Prep) | 呢度 (O) 煮嘢食。

- **Passive construction (被動句)**

23). 我 畀 (Prep) | 蚊 (O) 咬咗呀。

- **Pre-transitive construction (將字句)**

24). 我 將 (Prep) | 粟米 (O) 切開。

Pivotal construction V_1 o/s V_2 兼語結構

25). 我 俾 (V_1) | 佢 (o/s) | 飲水 (V_2)。

26). 羅姑娘 請 (V_1) | 我 (o/s) | 食嘢 (V_2)。

Coordinate construction $\text{Coord}_1 \text{Coord}_2$

- 27). 我今朝食咗 雞蛋 (Coord_1) | 同 | 麥皮 (Coord_2) 。
- 28). 媽咪 (Coord_1) | 或者 | 嫲嫲 (Coord_2) 煮飯俾我食囉。
- 29). 屋企有 杯杯囉 (Coord_1) , | 叉叉囉 (Coord_2) 。

Exercise 3

Can-LARSP analysis

- 1) 我 家姐 成日 食 呢啲 嘢。
Ngo5 gaalzel seng4jat6 sik6 nildil je5.
 I elder sister always eat these things.
 ‘My elder sister always eats these things.’

C:	S ²		P ⁴			Level 1	
P:	M(attri)	H	M(adv)	H ³		Level 2	
				V	O ²	Level 3	
					M(attri)	H	Level 4

Can-LARSP analysis

2) 車車 我 都 玩呀。

C: Top Com³

P: S P²
M(adv) H

Can-LARSP analysis

3) 檸檬 都 唔 請。

C: Top Com³

P: M(adv) H²
M(neg) H

Can-LARSP analysis

4) 我 食 咗 啲 肉片。

C: S P³

P: V O²
M(attri) H

W: pfv

Can-LARSP analysis

5) 我 喺 屋企 食 啲 鱼。

C: S P⁴

P: V₁² V₂³
Prep O V O²
M(attri) H

Can-LARSP analysis

6) 切翻 呢個 魚 出嚟先。

P: V³ C
V O²
M(attri) H

Can-LARSP analysis

7) 我 妹妹 鍾意 食 大 蘋果。

C: S² P⁴

P: M(attri) H V O³
V O²
M(attri) H

Can-LARSP analysis

8) 俾 雞翼 你 食啦。

P: V₁ Od Oi/s V₂

9) 姑姐 教 我 做 功課。

C: S P³

P: V₁ o/s V₂²
 V O

Can-LARSP analysis

10) 我 落 咗 一 個 粟米 喺 呢度。

C: S P⁵

P: V⁴ C²

V O³ Prep O

M(attri)² H

M(attri) H

W: pfv

Chinese Complex Sentences

- *With connectives*

Conjunctions

Coordinative multiple sentence, e.g.

- 1). 爸爸食咗, 跟住我又食一嚟。 (coord 1; c)
- 2). 要食雪糕, 跟住我就咬一塊俾佢食, 跟住我就食晒。 (coord 1+; c, c)
- 3). 跟住落鹽, 之後放入水, 可以食喇。
(coord 1+; c)

Chinese Complex Sentences

Subordinative multiple sentence, e.g.

1). 因為屋企係近啲, 所以就行路。

(sub 1; ds-conj)

2). 我入唔倒去, 因為有玻璃。 (sub 1; s)

Adverbs

Compressed sentence, e.g.

1). 搵開 | 先食倒㗎。 (comp 1; other)

2). 車走青蛙 | 就冇得玩。 (comp 1; other)

Chinese Complex Sentences

- *Without overt connectives*

Coordinative multiple sentence, e.g.

1). 有公仔啦, 又有校服啦. (coord 1)

Subordinative multiple sentence, e.g.

1). 揸呢度, 佢會有水。 (sub 1)

2). 太大個, 擺唔倒落去喎。 (sub 1)

Can-LARSP analysis

11) 擠 枋液 先至 洗洗 手 囉。

S: clause clause

P: V O M(adv) H²
V O

Can-LARSP analysis

12) 我 勁 啲, 因為 我 媽媽 唔 識 游水㗎。

S: clause s clause

C: S P² S² P³

P: V O M(attri) H M(neg) H²
V O

Can-LARSP analysis

13) 我 今日 見 倒 佢 有 翻學。

C: S P⁵

P: M(adv) H⁴
V² O³
V C

P: S P²
V₁ V₂

Quantitative indices

- 1) Mean Length of Utterance in word (MLUw)
- 2) Number of Syntactic Structures (NOSS)
- 3) Number of Different Syntactic Structures (NODSS)
- 4) Flexibility of Syntactic Structures (FSS)
- 5) Levels

MLUw, NOSS & NODSS

Examples of MLUw, NOSS and NODSS calculation

A 我 | 喺 | 屋企 | 畀 | 你 | 睇 | 啦。
Ngo5 *hai2* *uk1kei5* *bei2* *nei5* *tai2* *laa1*.
 I at house give you see FP.
 ‘I let you to have a look at home.’

MLUw: 1 + 1 + 1 + 1 + 1 + 1 = 6

C:

S

P ³

 Level 1

P:

V ₁ ²

V ₂ ²

 Level 2

Prep

O

V ₁

O/S

V ₂

 Level 3

NOSS=4: SP³, V₁²V₂², PrepO, V₁O/SV₂

NODSS=4: SP³, V₁²V₂², PrepO, V₁O/SV₂

MLUw, NOSS & NODSS

B 我 | 倒 | 呢個 | 入去。
Ngo5 *dou2* *ni1go3* *jap6heoi3*.
 I pour this in.
 'I pour this.'

MLUw: 1 + 1 + 1 + 1 = 4

C: | S | | P³ | Level 1

P: | V² | | C | Level 2

 | V | | O | Level 3

NOSS=3: SP³, V²C, VO

NODSS=3: SP³, V²C, VO

A+B

MLUw: (4+6)/2=5

NOSS=4+3=7: SP³, V₁²V₂², PrepO, V₁O/SV₂, SP³, V²C, VO

NODSS=6: SP³, V₁²V₂², PrepO, V₁O/SV₂, V²C, VO

Flexibility

Flexibility

SP

MH

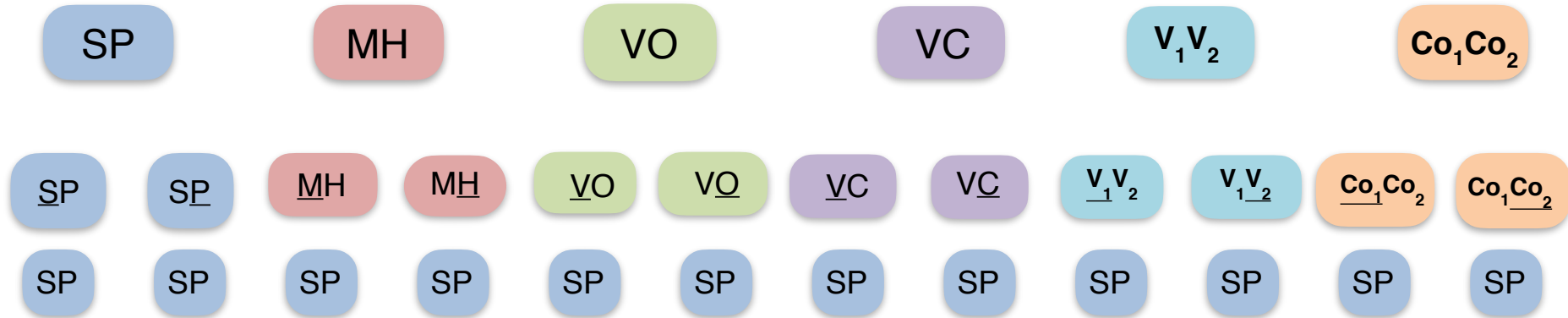
VO

VC

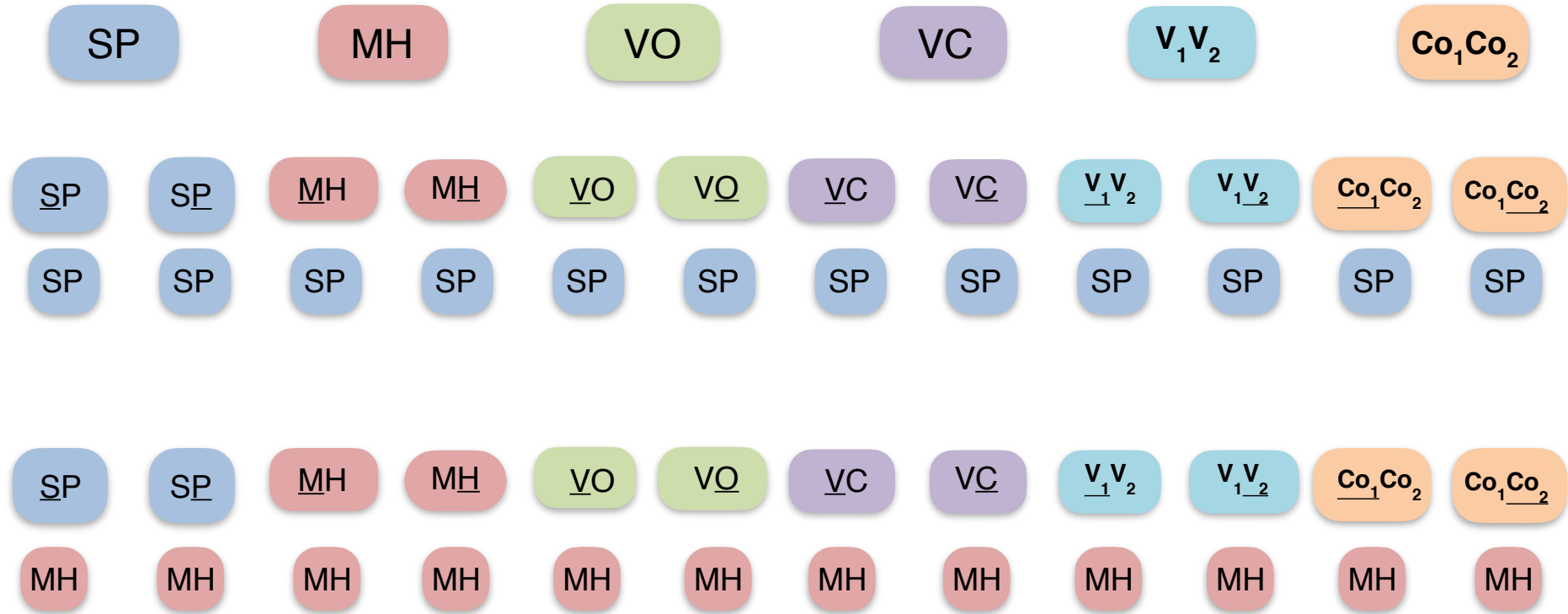
$V_1 V_2$

$Co_1 Co_2$

Flexibility



Flexibility



Flexibility

SP		MH		VO		VC		$V_1 V_2$		$Co_1 Co_2$	
<u>SP</u>	<u>SP</u>	<u>MH</u>	<u>MH</u>	<u>VO</u>	<u>VO</u>	<u>VC</u>	<u>VC</u>	<u>$V_1 V_2$</u>	<u>$V_1 V_2$</u>	<u>$Co_1 Co_2$</u>	<u>$Co_1 Co_2$</u>
SP	SP	SP	SP	SP	SP	SP	SP	SP	SP	SP	SP
<u>SP</u>	<u>SP</u>	<u>MH</u>	<u>MH</u>	<u>VO</u>	<u>VO</u>	<u>VC</u>	<u>VC</u>	<u>$V_1 V_2$</u>	<u>$V_1 V_2$</u>	<u>$Co_1 Co_2$</u>	<u>$Co_1 Co_2$</u>
MH	MH	MH	MH	MH	MH	MH	MH	MH	MH	MH	MH
<u>SP</u>	<u>SP</u>	<u>MH</u>	<u>MH</u>	<u>VO</u>	<u>VO</u>	<u>VC</u>	<u>VC</u>	<u>$V_1 V_2$</u>	<u>$V_1 V_2$</u>	<u>$Co_1 Co_2$</u>	<u>$Co_1 Co_2$</u>
VO	VO	VO	VO	VO	VO	VO	VO	VO	VO	VO	VO

Flexibility

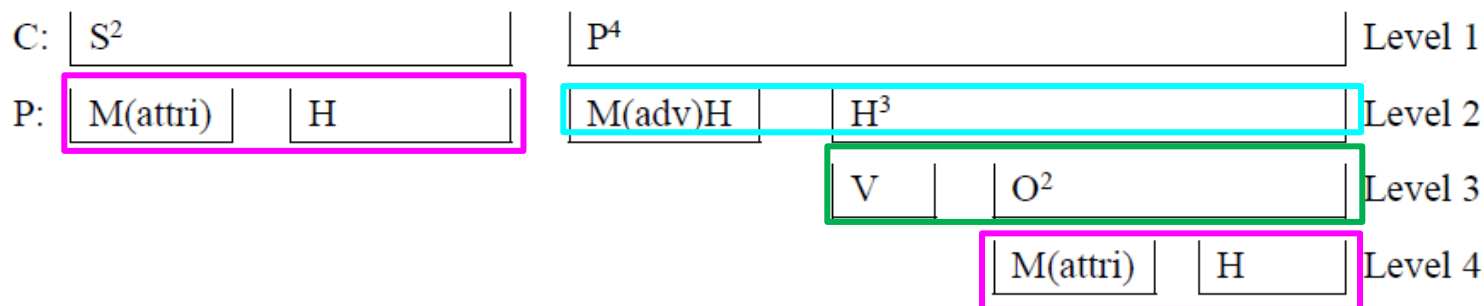
The SS is used flexibly at different slots of SS

e.g., VO

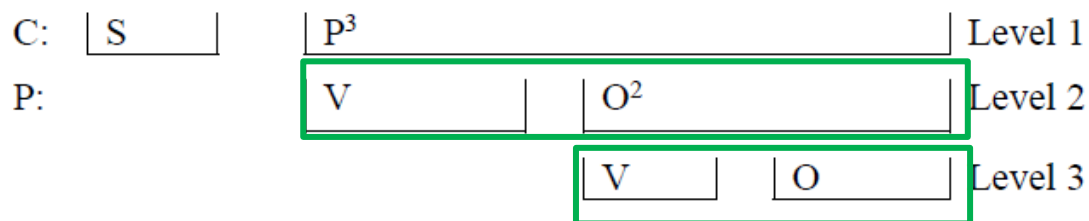
- 1) 我食包包啊。 (SP in P)
- 2) 我鍾意食冬菇囉。 (VO in O)
- 3) 我翻學校食點心。 (V_1V_2 in V_1 and V_2)
- 4) 我擺菜嘅碟度。 (V of VC)
- 5) 切菜把刀嘅邊啊? (MH in M)
- 6) 玩玩具同埋睇電視 ($\text{Coord}_1\text{Coord}_2$ in Coord_1 & Coord_2)

Flexibility

我 家姐 成日 食 呢啲 嘢。
Ngo5 gaalze1 seng4jat6 sik6 nildi1 je5.
 I elder sister always eat these things.
 'My elder sister always eats these things.'



我 鍾意 食 蟹 。
Ngo5 zunglji3 sik6 haai5 .
 I like eat crab .
 'I like to eat.'



Flexibility of M(attri)H and VO & M(adv)H

- M(attri)H = 2 (SP, VO)
- VO = 3 (MH, SP, VO)
- M(adv)H = 1(SP)

C-LARSP

我 食 蘋果。
C: S V O

Can-LARSP

	我	食	蘋果。			
C:	<table border="1"><tr><td>S</td></tr></table>	S	<table border="1"><tr><td>p²</td></tr></table>	p ²		Level 1
S						
p ²						
P:		<table border="1"><tr><td>V</td></tr></table>	V	<table border="1"><tr><td>O</td></tr></table>	O	Level 2
V						
O						

C-LARSP

	我	家姐	食	大	蘋果。
C:	S		V	O	
P:	Pron	N		Adj	N

Expansion: XY+S: NP; XY+O: NP

Can-LARSP

C:	我	家姐	食	大	蘋果。	
	S ²		p ³			Level 1
P:	M(attri)	H	V	O ²		Level 2
				M(attri)	H	Level 3

C-LARSP

	我	諗住	有啲嘢	同你講。
C:	S	V	O	
			V	V
P:			v quant n	prep n v

Can-LARSP

C:	我	諗住	有	啲	嘢	同	你	講。	
	S	P ⁵							Level 1
P:	V	O ⁴							Level 2
		V ₁ ³			V ₂ ³				Level 3
	V	O ²		V ₁ ²	V ₂				Level 4
		M(attri)	H	Prep	O				Level 5

Major issue for ST

Theory to practice

Level Measure

Levels

Level	2:08 yo	3:06 yo	4:07 yo	5:02 yo	Adult-Ss1	Adult-Ss7
1	33	33	27	17	9	3
2	13	11	15	10	13	6
3	3	3	5	12	7	7
4	0	3	3	7	3	9
5	1	0	0	3	4	3
6	0	0	0	0	2	5
7	0	0	0	0	2	2
8	0	0	0	0	0	2
9	0	0	0	0	0	3

Mean Length Utterance (word) Measure

MLU-W

	MLU-W		Sample utterances	Age
N1-1	2.26		煮嘢/.	2;8
K1A-1	2.44		食得/.	3;6
K2A-2	3.12		喺迪士尼度/.	4;7
K2A-9	4.16		我識自己玩嘅/.	5;2
Adult Ss1	5.08		嗰個係做緊花/.	50
Adult Ss 7	7.25		你哋要求要好似今日講嘢/.	50

No. of Sentence Structures Measure

	NOSS	NODSS
N1-1	73	26
K1A-1	75	20
K2A-2	98	30
K2A-9	144	42
Adult-Ss1	152	/
Adult-Ss7	259	/

Flexibility Measure

		N1-1	K1A-1	K2A-2	K2A-9
1	VO	6	3	6	7
2	VOiOd	0	0	0	0
3	VOdOi	0	0	1	0
4	M(attri)H	3	2	7	5
5	M(adv)H	2	1	5	6
6	M(neg)H	2	1	1	1
7	M(appo)H	0	0	1	1
8	VC	1	3	2	5
9	V1V2	0	0	1	3
10	V1 o/s V2	0	0	1	0
11	PrepO	0	0	0	1
12	SP	0	0	3	4
13	Coord1 Coord2	0	0	3	1
14	Top Com	0	0	0	0
		14	10	31	34

Housing

Housing

SP		MH		VO		VC		V_1V_2		Co_1Co_2	
<u>SP</u>	<u>SP</u>	<u>VO</u>	<u>VO</u>	<u>VC</u>	<u>VC</u>	<u>V_1V_2</u>	<u>V_1V_2</u>	<u>Co_1Co_2</u>	<u>Co_1Co_2</u>		
VC	VC	VC	VC	VC	VC	VC	VC	VC	VC	VC	VC
<u>SP</u>	<u>SP</u>	<u>VO</u>	<u>VO</u>	<u>VC</u>	<u>VC</u>	<u>V_1V_2</u>	<u>V_1V_2</u>	<u>Co_1Co_2</u>	<u>Co_1Co_2</u>		
MH	MH	MH	MH	MH	MH	MH	MH	MH	MH	MH	MH
<u>SP</u>	<u>SP</u>	<u>MH</u>	<u>MH</u>	<u>VC</u>	<u>VC</u>	<u>V_1V_2</u>	<u>V_1V_2</u>	<u>Co_1Co_2</u>	<u>Co_1Co_2</u>		
VO	VO	VO	VO	VO	VO	VO	VO	VO	VO	VO	VO

Housing

SP		MH		VO		VC		V_1V_2		Co_1Co_2
<u>MH</u>	<u>MH</u>	<u>VO</u>	<u>VO</u>	<u>VC</u>	<u>VC</u>	<u>V_1V_2</u>	<u>V_1V_2</u>	<u>Co_1Co_2</u>	<u>Co_1Co_2</u>	
SP	SP	SP	SP	SP	SP	SP	SP	SP	SP	SP
<u>SP</u>	<u>SP</u>	<u>VO</u>	<u>VO</u>	<u>VC</u>	<u>VC</u>	<u>V_1V_2</u>	<u>V_1V_2</u>	<u>Co_1Co_2</u>	<u>Co_1Co_2</u>	
MH	MH	MH	MH	MH	MH	MH	MH	MH	MH	MH
<u>SP</u>	<u>SP</u>	<u>MH</u>	<u>MH</u>	<u>VC</u>	<u>VC</u>	<u>V_1V_2</u>	<u>V_1V_2</u>	<u>Co_1Co_2</u>	<u>Co_1Co_2</u>	
VO	VO	VO	VO	VO	VO	VO	VO	VO	VO	VO

SP

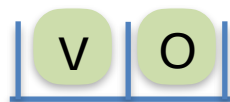
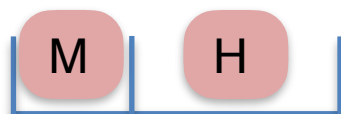
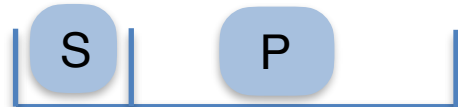
MH

VO

VC

 V_1V_2 Co_1Co_2

我 想 揀 呢 個。



level 1 housing

level 2 housing

NODH: 2

1. SP & M(adv)H,2. M(adv)H & VO

SP

MH

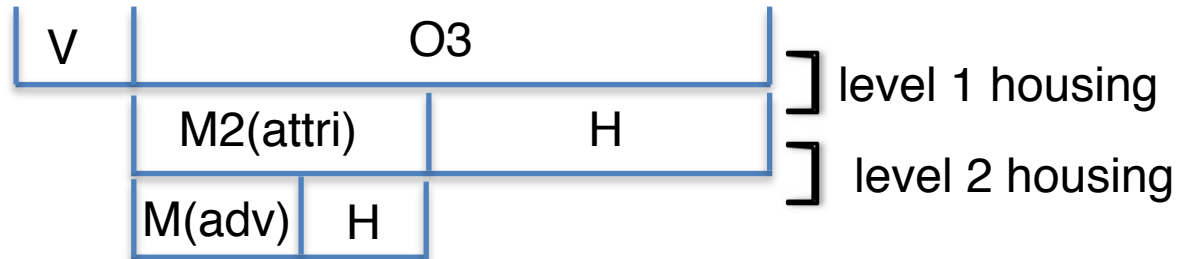
VO

VC

 $V_1 V_2$ $Co_1 Co_2$

係 最 快 個 啲 囉

P:



NODH: 2

1. $\underline{VO}$ & $M(attri)H$,
2. $\underline{M(attri)}H$ & $M(adv)H$



SP

MH

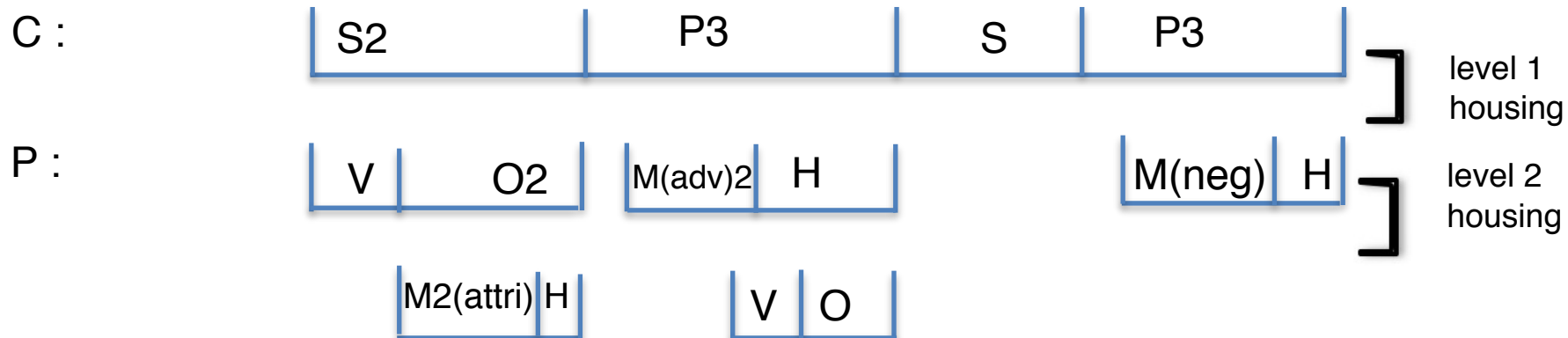
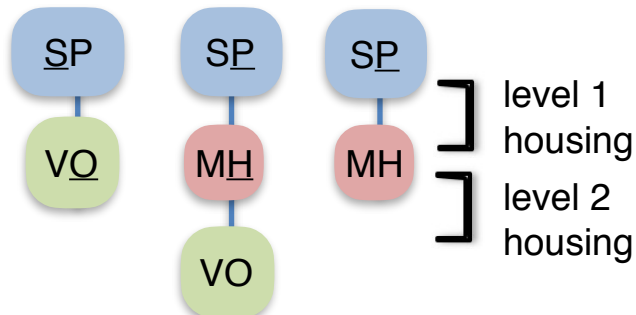
VO

VC

 $V_1 V_2$ $Co_1 Co_2$

S: c clause

如果焗葡汁雞，就係焗啫，呢個唔係焗

**NODH: 5****1. SP & VO****2. SP & M(adv)H****3. VO & M(attri)H****4. M(adv)H & VO****5. SP & M(neg)H**

SP

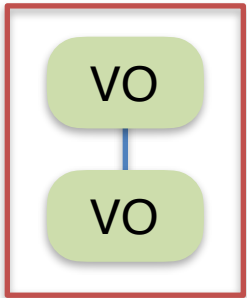
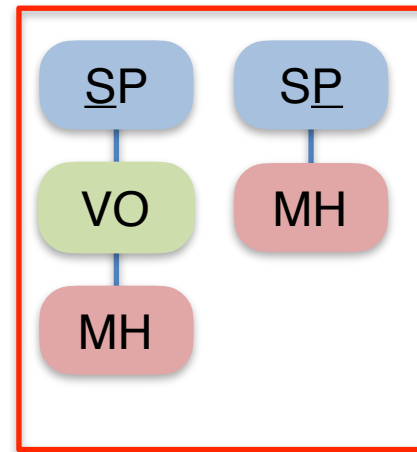
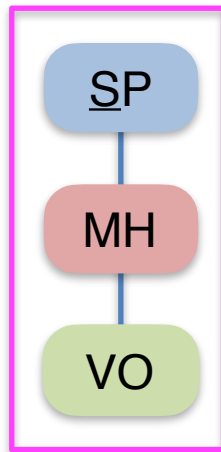
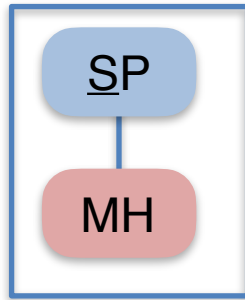
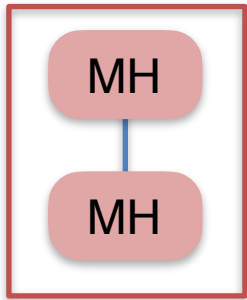
MH

VO

VC

$V_1 V_2$

$Co_1 Co_2$



Mutual H

Mutual H
+ Level

Multiple H
+ level

Self H

Housing Measure

Preschool kids

	N1-1	K1A-1	K2A-2	K2A-9
No housing Utterances	33	33	27	17
Self-housing Utterances	0	0	1	0
Mutual-Housing Utterances	16	13	17	23
Multiple-Housing Utterances	1	4	5	10
Total	50	50	50	50

NODH Measure

1 level housing	NODH							
Stage	1	2	3	4	5	6	7	8
N1-1	13							
K1A-1	11							
K2A-2	13	2						
K2A-9	10							
2 level housing								
N1-1		3						
K1A-1		4						
K2A-2		5						
K2A-9		10	2					
3 level housing								
N1-1								
K1A-1			2					
K2A-2		1			1			1
K2A-9			2	3	1		1	
4 level housing								
N1-1				1				
K1A-1								
K2A-2								
K2A-9				2	1			

Key references

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