Linguistic Changes in L2 Oral Performance by Chinese English Majors Across Four Years

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Outline

- **Part One**
  - **Introduction**
- **Part Two**
  - **Linguistic changes in different modules and sub-modules**
- **Part Three**
  - **Linguistic changes in different dimensions**
- **Part Four**
  - **Conclusion**

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Part One

- **Brief information about the English majors in China**

- **A general description of the project**

Who are English majors?

◆ **University students who take the BA degree program in English**

About 900 universities in China offer such BA degree programs.

Fluent accurate appropriate

English secretaries Civil servants

The time for learning English skills

	No. of lessons	Total
Primary	3x40x2	240
Secondary	4x40x6	960
Tertiary	1040+520	1560
total	12 years	2760

345 days

Part One

- ◆ **Brief information about the English majors in China**

- ◆ **A general description of the project**

General Purpose

- **What changes have English majors produced English performance four years' undergraduate study?**

Linguistic change

Cognitive change

Change for the better

Change for the worse

Specific purpose one

◆ **Clarify two theoretical issues**

- **Does L2 develop linearly or nonlinearly?**

- **Does L2 develop monolithically or non-monolithically?**

Linearly or nonlinearly?

◆ **L2 learning incremental & cumulative in nature; learning discontinuous, full of ups and downs, or cessation for a while**

- **Some empirical studies provide evidence in support of this view**
  - **Vocabulary learning (Young, 1995)**
  - **Structural complexity (Hirano, 1991; Larsen-Freeman, 1983)**
- **Some empirical studies provide counter-evidence**

Specific purpose one

◆ **Clarify two theoretical issues**

– **Does L2 develop linearly or nonlinearly?**

– **Does L2 develop monolithically or non-monolithically?**

Monolithically or non-monolithically?

- **Monolithic vs. non-monolithic**
  - **Monolithic: oversimplified**
  - **Non-monolithic: more realistic**
    - **A language has different modules or subsystems.**
    - **Each subsystem can be observed from different dimensions such as accuracy, complexity and fluency.**

Specific purpose two

- **Improve the effectiveness of the BA program in English in China**

- **Bring the student's potential into full play**

A state-funded project

◆ **The project was accomplished by a team of more than 100 people.**

◆ **The core members of the project are 10 PhD degree-holders or PhD students.**

Linguistic changes

◆ **Phonological change by Chen in 2006**

◆ **Morphological change (agreement and past tense) by Li & Wen, Wang & Wen in 2007**

◆ **Syntactic change (VP, NP, T-unit) by Heng & Wen, Ma & Wen, Hu & Wen in 2006**

◆ **Lexical change (Vocabulary and FS) by Wen & Qi in 2006**

◆ **Discoursal change (discourse markers) by Hu & Wen in 2007**

Subjects

◆ **72 English majors participated in this project when they were enrolled in a national key university in 2001 (the top 10 percent of all the English majors in China)**

◆ **56 students left for the final data analysis since the others' data sets were incomplete.**

  ◆ **11 male; 45 female**

◆ **15 American students from Davidson University in North Carolina who completed one task**
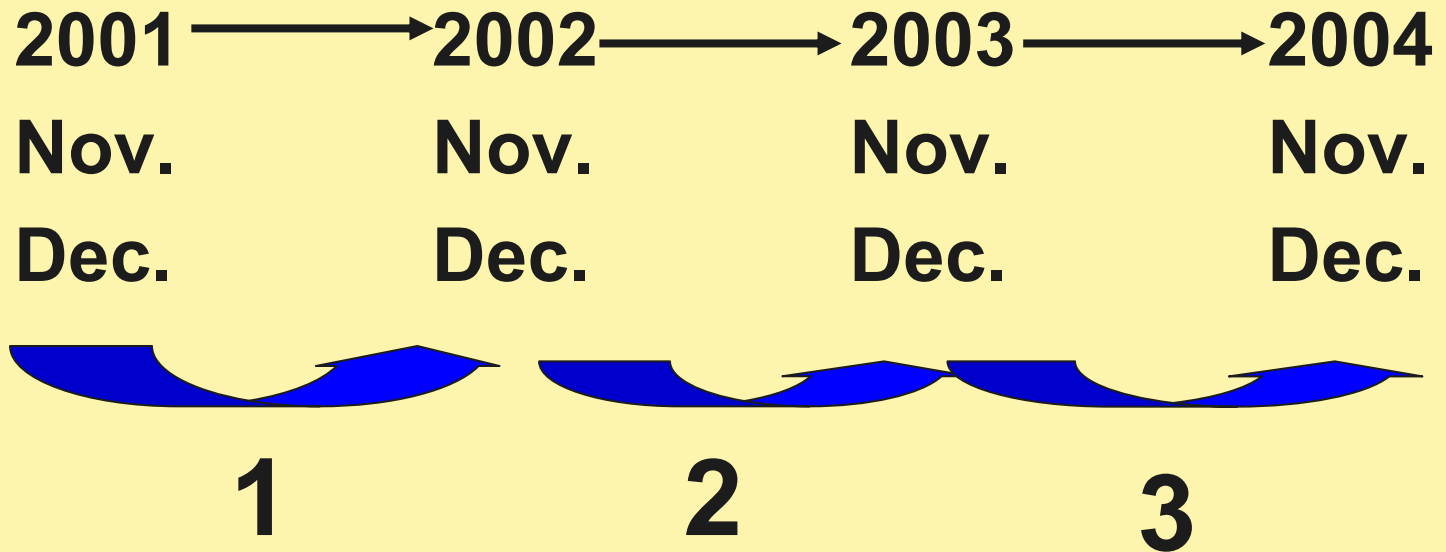
  ◆ **4 male; 11 female**

Data collection

2001 → 2002 → 2003 → 2004

Nov.   Nov.   Nov.   Nov.

Dec.   Dec.   Dec.   Dec.
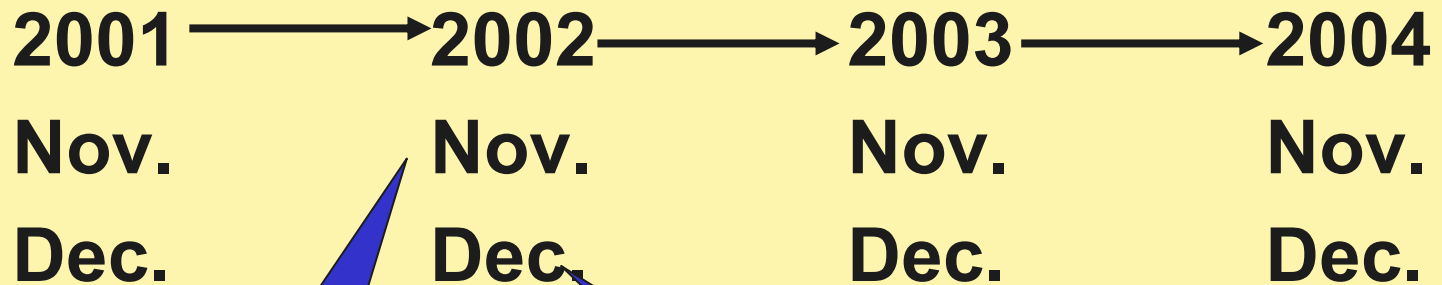
**Reading aloud
A narrative task
Role play**

**Retelling
An argumentative task
Discussion**

Data collection

2001 → 2002 → 2003 → 2004

Nov.   Nov.   Nov.   Nov.

Dec.   Dec.   Dec.   Dec.

1   2   3

Tasks involved in today's presentation

◆ **A narrative task**

◆ **An argumentative task**

  ◆ **Three minutes' preparation and three minutes' talk**

Topics for narrative monologues

Time	Topics
Year 1	The most unforgettable birthday
Year 2	Describe one of the persons you admire most
Year 3	Describe one of your experiences when you had a great ambition to do something
Year 4	The most unforgettable birthday

Topics for argumentative monologues

Time	Topics
Year 1	Is it appropriate for a college student to rent an apartment and live outside the campus?
Year 2	Make critical comments on the use of electronic dictionaries among college students.
Year 3	Do you think it is appropriate for college students to get married? Give your opinions and reasons.
Year 4	Is it appropriate for a college student to rent an apartment and live outside the campus?

Data preparation

◆ **Transcribed 5,760 minutes' oral performance with three times' check**

◆ **Data cleaning (Foster et al 2000)**

◆ **false starts**

◆ **repetitions**

◆ **self-repairs**

A Framework

◆ **What to analyze**

◆ **How to analyze**

What to analyze

Module	Dimension
Phonological	Accuracy
Morphological	
Syntactic	Fluency, accuracy, complexity, variation
Lexical	
Discoursal	

Morphology-accuracy
Agreement-Accuracy
DN agreement-A
SV agreement-A
AP agreement-A

Linear	Non-linear
Increase	U shape
Decrease	Ω shape

The difference between the starting point and the

The time for increase or decrease or cessation

More target-like or less target-like

Li_____unit

M-dimension   **Cross-learn**

Sub-m-D   **Inter-learne**

Sub-sub-m-D   **Intra-learner**

Result of change

A continuous or discontinuous sequence of words, with syntactically and semantically well-formed structure, which can be stored holistically and produced wholly.

Mor...
(Agreeme...

Synt...
(NP, V...

Complexit...
ac...cy

Lexical
(FS, vocabula...

Fluency, complexit...
variation

...s (V that-clause)	I <u>think</u> that living alone is better than living with other
VP4 (V n adj)	The darkness could <u>drive</u> a man mad.
VP5 (V n –ed)	I <u>had</u> three wisdom teeth extracted.

Part Two

◆ **Morphological change**

◆ **Syntactic change**

◆ **Lexical change**

Morphological Change

◆ **Grammatical agreement**

◆ **Past tense**

Research question

What are the changes in **agreement accuracy** in the argumentative monologs by the 56 English majors across four years?

Agreement accuracy

	Mean(%)	SD
Year 1	90.38	6.809
Year 2	86.66	4.977
Year 3	92.43	3.970
Year 4	90.79	5.170
	MD	P
Y1-Y2	-3.72	.001
Y2-Y3	5.77	.000
Y3-Y4	-1.64	.051

Agreement accuracy

Y1 – Y2 = .001

Y2 – Y3 = .000

Y3– Y4 = .051
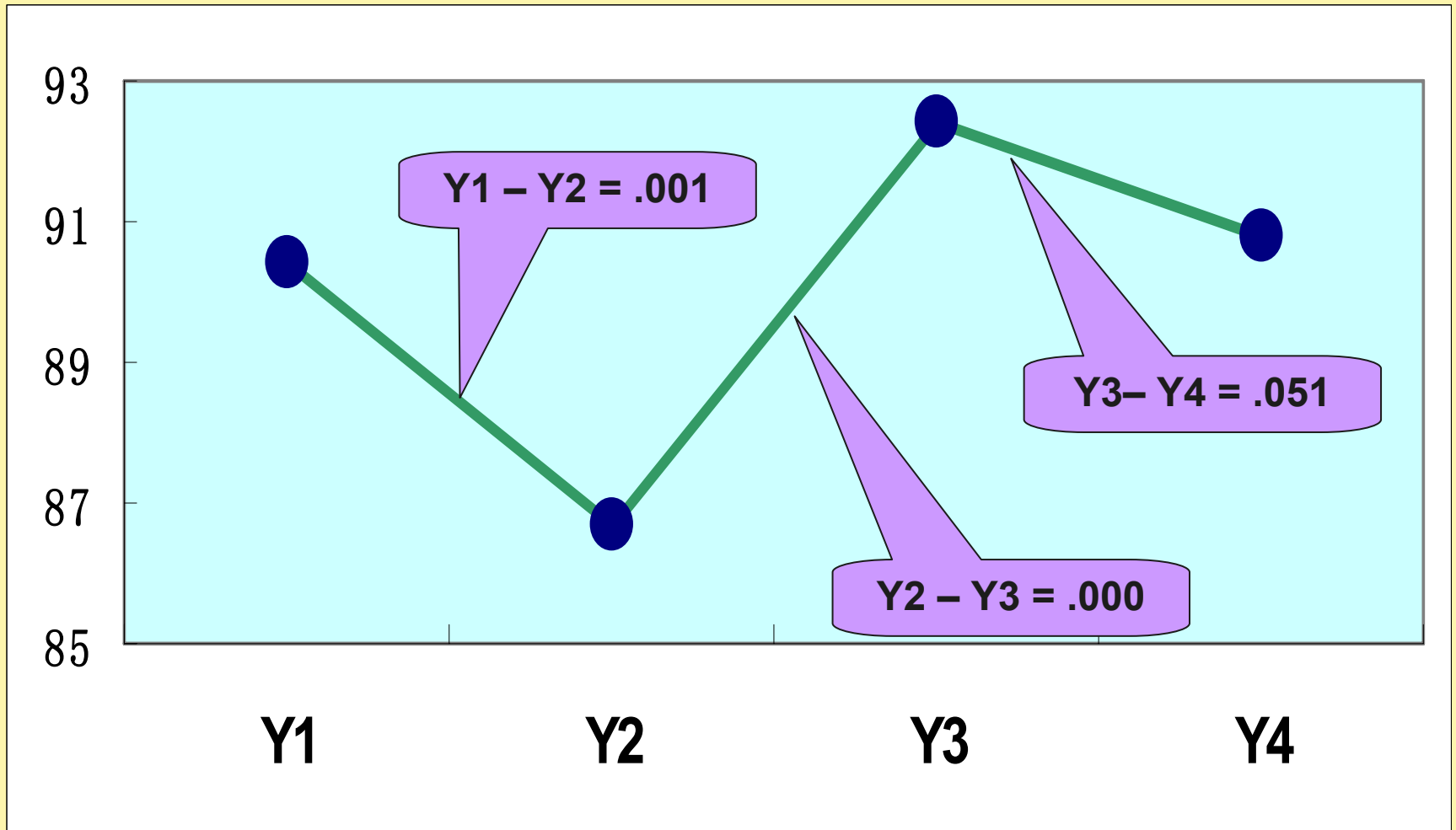
Morphological Change

◆ **Grammatical agreement**

◆ **Past tense**

Data for Past tense

◆ **A narrative task**

◆ **41 out of the 56 students**

◆ **15 out of the 56 students excluded because at least one of the four dialogues did not contain 10 past obligatory contexts.**

Past tense accuracy

	Mean(%)	SD
Year 1	73.48	17.50
Year 2	74.43	17.01
Year 3	73.70	14.37
Year 4	77.93	16.04
	MD	P
Y1-Y2	-.95	.538
Y2-Y3	.73	.726
Y3-Y4	-4.13	.061
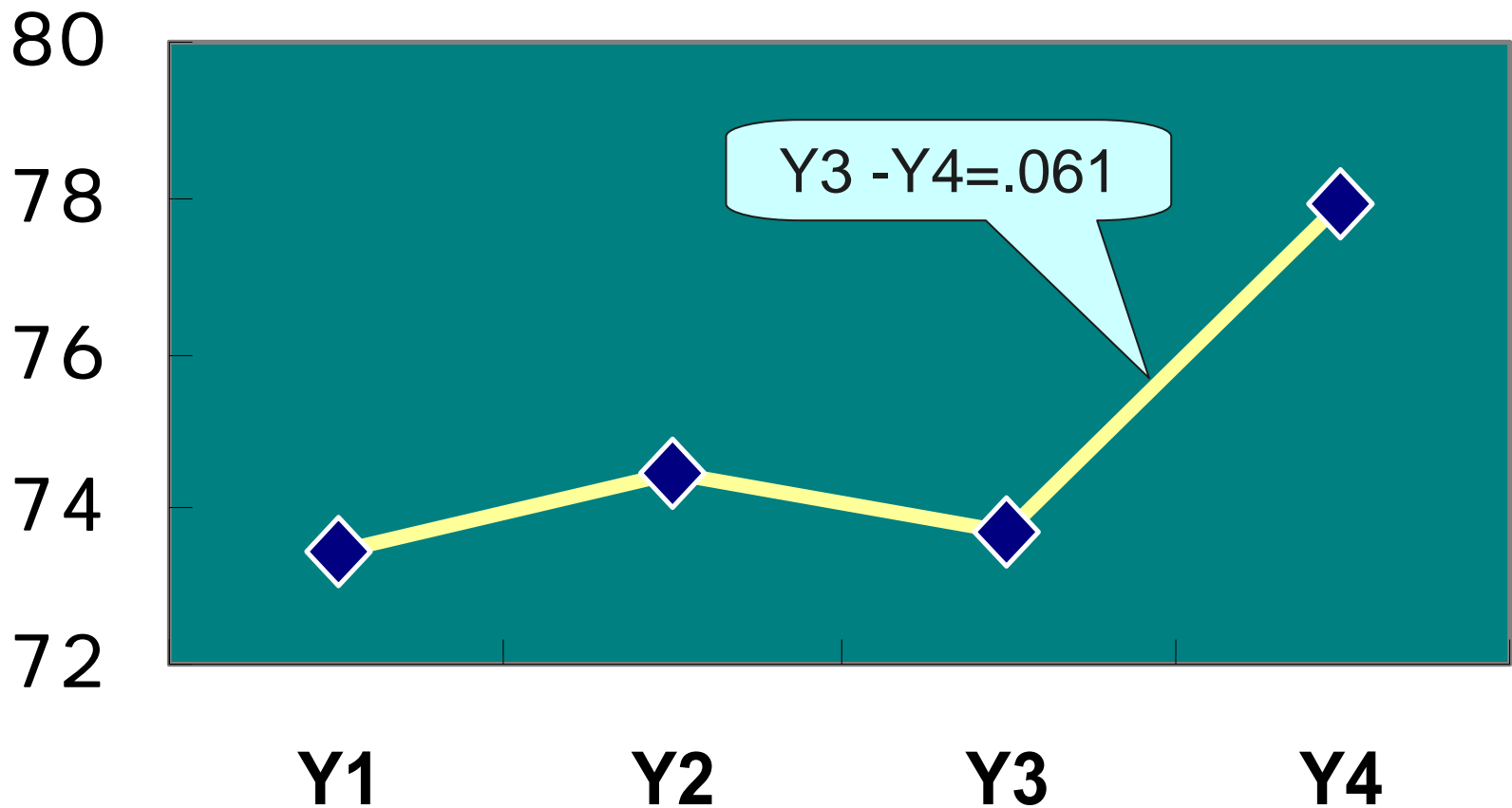
Two types of past tense accuracy

	Regular	Irregular (modals excluded)
	Mean (%)	Mean(%)
Y1	80.0	74.5
Y2	76.3	76.0
Y3	75.9	76.2
Y4	80.6	79.4

Two types of past tense accuracy
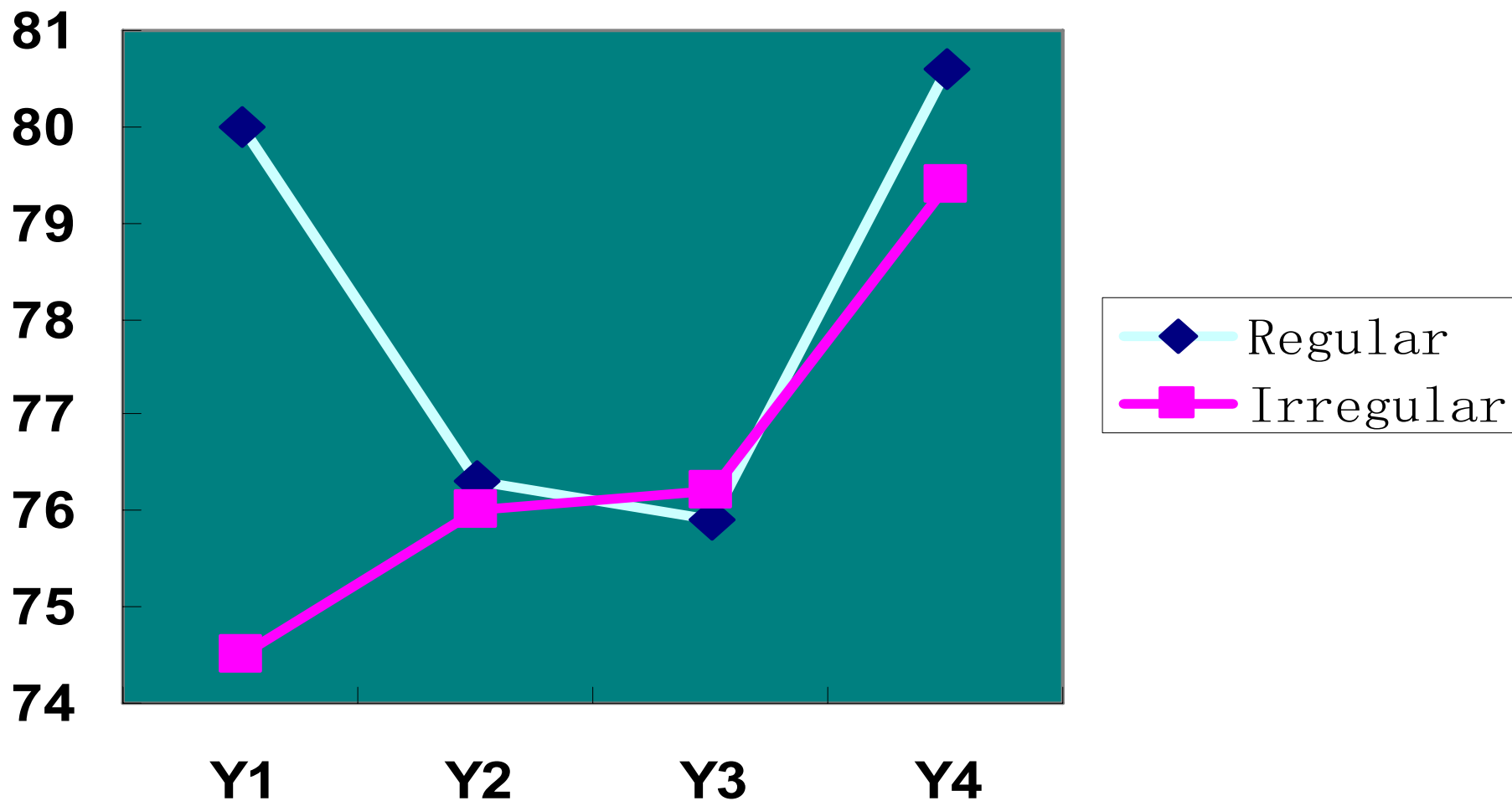
Part Two

◆ **Morphological change**

◆ **Syntactic change**

◆ **Lexical change**

Syntactic Change

◆ **NP**

◆ **VP**

◆ **How do NP complexity, NP variation and NP accuracy change in the learners' oral performance across four years?**

NP classifications (Quirk, 1985)

- **NP1: (determiner) + N**
  - *the necklace*
- **NP2: (determiner) + premodification + N**
  - *the expensive necklaces*
- **NP3: (determiner) + N + postmodification**
  - *the car outside the station*
- **NP4: (determiner) + premodification + N + postmodification**
  - *the tall girl standing in the corner*

Data for NP

◆ **An argumentative task**

Measurement

◆ **NP complexity (Flahive & Snow, 1980)**

  ◆ **[(NP1s × 1)+(NP2s × 2)+(NP3s × 3)+ (NP4s × 4)] ÷ NPs**

◆ **NP variation (Chaudron & Parker. 1990)**

  ◆ **(NP types)^2 ÷ NP tokens**

◆ **NP accuracy**

  ◆ **error-free NPs ÷ NPs**

Three dimensions of NP

	Complexity		Variation		Accuracy	
	Mean	SD	Mean	SD	Mean	SD
Y1	1.43	.15	19.77	6.52	98.3	.03
Y2	1.67	.21	23.57	5.57	98.7	.02
Y3	1.75	.20	24.38	5.59	98.9	.02
Y4	1.63	.22	27.33	6.94	98.8	.02

Pairwise comparison

	Complexity		Variation		Accuracy	
	MD	**P**	**MD**	**P**	**MD**	**P**
Y1-Y2	.25	.000	3.80	.000	.4	.386
Y2-Y3	.07	.034	.81	.376	.2	.629
Y3-Y4	-.12	.001	2.94	.002	-.1	.754

Three dimensions of NP

Syntactic Change

- ◆ **NP**

- ◆ **VP**

- ◆ **T-unit**

Research question

How does VP complexity, VP variation and VP accuracy change in argumentative monologues by the English majors across four years?

Data for VP

- ◆ **An argumentative task**

VP Classifications

Classification	Varied types
VP 1	**V**
VP 2	**V n; V adj; V adv; V prep**
VP 3	**V that-clause; V wh-clause;** **V wh-to-inf; V to-inf; V inf; V-ing; V -ed**
VP 4	**V n n; V n adj; V n adv; V n prep**
VP 5	**V n that; V n wh-clause; V n wh-to-inf;** **V n inf; V n to-inf; V n -ing; V n -ed**

VP examples

VP type	Examples
VP1(V)	Mary <u>smiled.</u>
VP2 (V n)	I <u>broke</u> my left leg.
VP3 (V to-inf)	I <u>want</u> to have a larger room.
VP3 (V that-clause)	I <u>think</u> that living alone is better than living with other
VP4 (V n adj)	The darkness could <u>drive</u> a man mad.
VP5 (V n –ed)	I <u>had </u>three wisdom teeth extracted.

Measurement

- **VP complexity (Flahive & Snow, 1980)**
  - **[(VP1s $\times$ 1)+(VP2s $\times$ 2)+(VP3s $\times$ 3)+ (VP4s $\times$ 4)+ (VP5s $\times$ 5] $\div$ VPs**

- **VP variation (Chaudron & Parker, 1990)**
  - **(VP types)^2 $\div$ VP tokens**

- **VP accuracy**
  - **error-free VPs $\div$ VPs**

Three dimensions of VP

	Complexity		Variation		Accuracy	
	Mean	SD	Mean	SD	Mean	SD
Y1	2.29	.18	24.52	8.06	97.0	.036
Y2	2.36	.18	25.22	7.70	97.1	.032
Y3	2.43	.17	23.25	5.96	96.9	.033
Y4	2.40	.20	26.45	8.80	97.5	.033

Pairwise comparison

	Complexity		Variation		Accuracy	
	MD	P	MD	P	MD	P
Y1-Y2	.07	.033	.70	.528	.1	.823
Y2-Y3	-.07	.034	-1.97	.073	-.2	.696
Y3-Y4	-.03	.297	3.2	.002	.6	.386

Three dimensions of VP
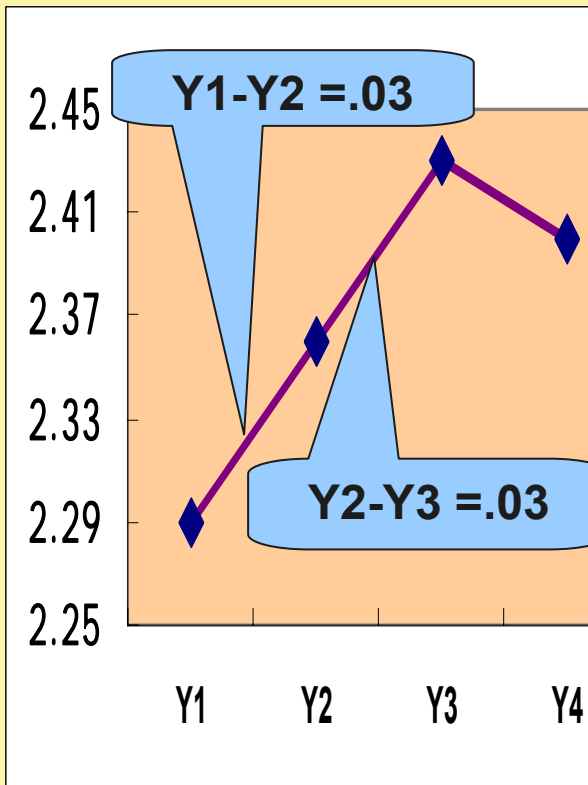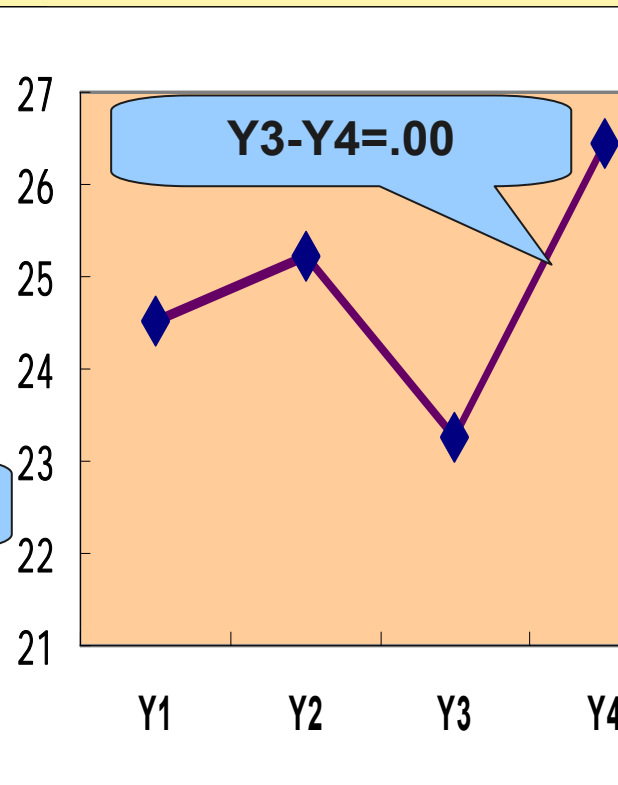
VP Complexity **VP Variation** **VP Accuracy**
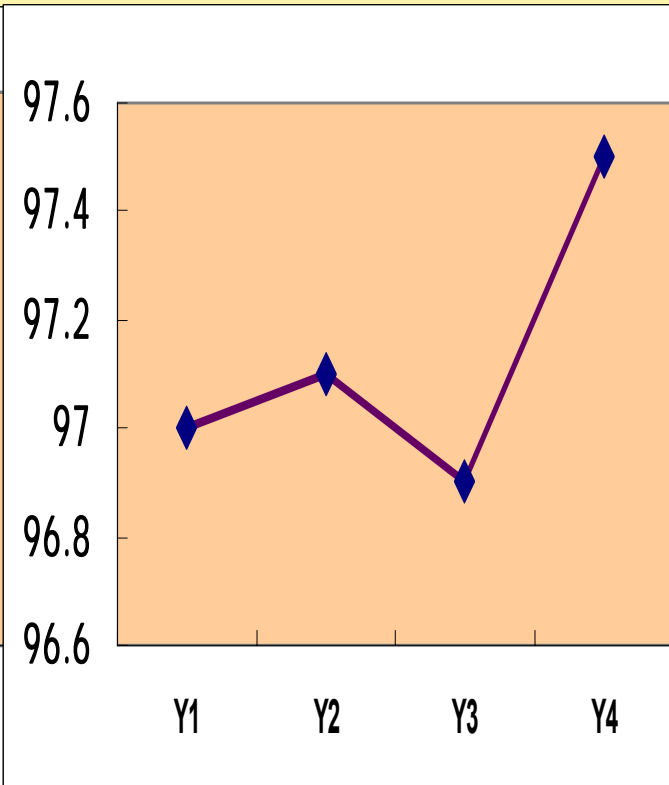
Part Two

◆ **Morphological change**

◆ **Syntactic change**

◆ **Lexical change**

Lexical change

◆ **Formulaic sequences**

◆ **Vocabulary**

Research question

◆ **What is the changing pattern of formulaic sequences in Chinese students' L2 oral performance across four years in terms of fluency, accuracy and variation?**

Theoretical definition

A continuous or discontinuous sequence of words, with syntactically and semantically well-formed structure, which can be stored holistically and produced wholly.

Operational definition

Any phrase-level word combination with a complete syntactic structure and semantic meaning that can be found in the dictionary or deviates from the phrases in the dictionary:

Correct vs. erroneous FSs

Measurement

Frequency, Accuracy, Variation

= **The total number of FS tokens per monologue**

$$= \frac{\text{The total number of error-free FS tokens per monologue}}{\text{The total number of FS tokens per monologue}}$$

$$= \frac{\text{The total number of FS types per monologue}}{\text{The total number of FS tokens per monologue}}$$

Changes in FS

	Frequency		Accuracy		Variation	
	Mean	SD	Mean %	SD	Mean	SD
Y1	24.39	1.11	86.1	.10	14.88	5.76
Y2	28.59	.85	92.3	.06	11.71	4.39
Y3	30.03	.64	93.9	.05	14.81	4.60
Y4	29.39	1.16	88.8	.09	18.51	5.22

Pairwise comparison

	Fluency		Accuracy		Variation	
	MD	P	MD	P	MD	P
Y1-Y2	-4.20	.000	6.2	.000	-3.17	.000
Y2-Y3	-1.45	.104	1.6	.105	3.09	.000
Y3-Y4	.64	.592	-5.1	.000	-3.71	.000

Three dimensions of FS
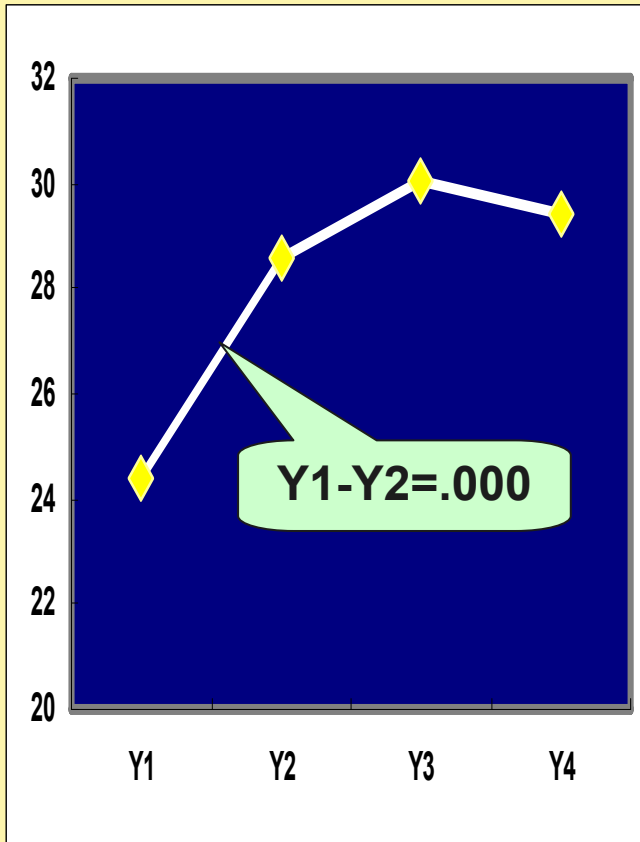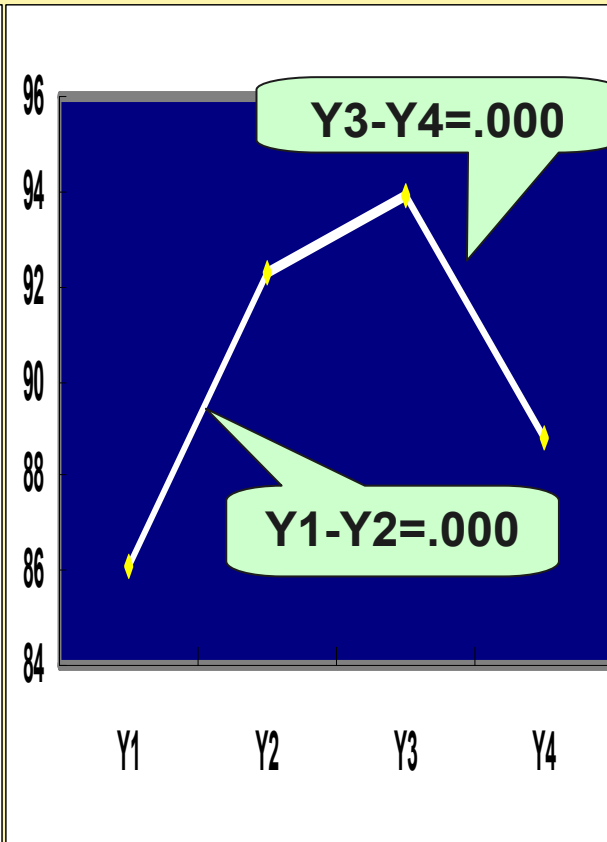
Frequency **Accuracy** **Variation**
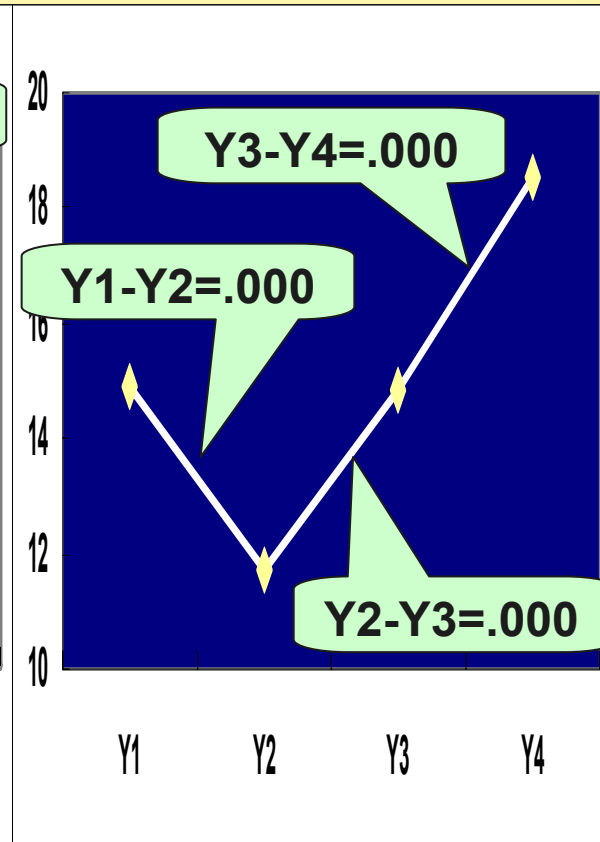
Lexical change

◆ **Formulaic sequences**

◆ **Vocabulary**

Research questions

- **To what extent does English speaking vocabulary develop in terms of fluency, complexity and variation?**

- **Does task type (a narration task and an argumentative task) affect the changing patterns of fluency, complexity and variation of vocabulary?**

- **Does entry-level affect the changing patterns of fluency, complexity and variation of argumentative vocabulary?**

Three dimensions

◆ **Fluency**

◆ **Vocabulary size**

◆ **Variation**

Fluency

◆ **The number of words spoken or written in a given time (Wolfe-Quintero et al., 1998)**

Three dimensions

◆ **Fluency**

◆ **Vocabulary size**

◆ **Variation**

1. Vocabulary size

Vocabulary breadth or complexity

- ...abulary = Baseword list 1
- ...abulary = Baseword List 2
- Level 3 vocabulary = Baseword List 3 and the words off the above three word lists
- Words beyond Baseword Lists 1 and 2 better indicators of advanced learners (Laufer, 1995)

Three dimensions

◆ **Fluency**

◆ **Vocabulary size**

◆ **Variation**

Lexical variation

◆ **Type/Token ratio**

◆ **Type xType/Token**

(Wolfe-Quitero et.al., 1998:107)

Data for this study

◆ **A narrative task**

◆ **An argumentative task**

Data analysis

- **Range 32 produced by Paul Nation and his colleagues**

- **SPSS: Repeated measures to identify the patterns of change and find out whether the differences between two adjacent years are significant or not.**

Research Question 1

◆ **To what extent does English speaking vocabulary change in terms of fluency, vocabulary size and variation?**

Change in vocabulary

	Fluency		Vocabulary size		Lexical variation	
	Mean	SD	Mean	SD	Mean	SD
Y1	249	58.02	5.52	1.97	48.68	6.98
Y2	263	53.89	7.50	2.56	53.82	7.36
Y3	274	45.87	8.78	2.52	55.73	7.29
Y4	284	53.59	8.20	1.94	55.87	7.51

Pairwise comparison

|	Fluency		Vocabulary size		Lexical variation	
	MD	P	MD	P	MD	P
Y1-Y2	-14	.01	-1.97	.000	-5.14	.000
Y2-Y3	-11	.06	-1.28	.002	-1.91	.081
Y3-Y4	-9	.11	.58	.111	-.14	.888
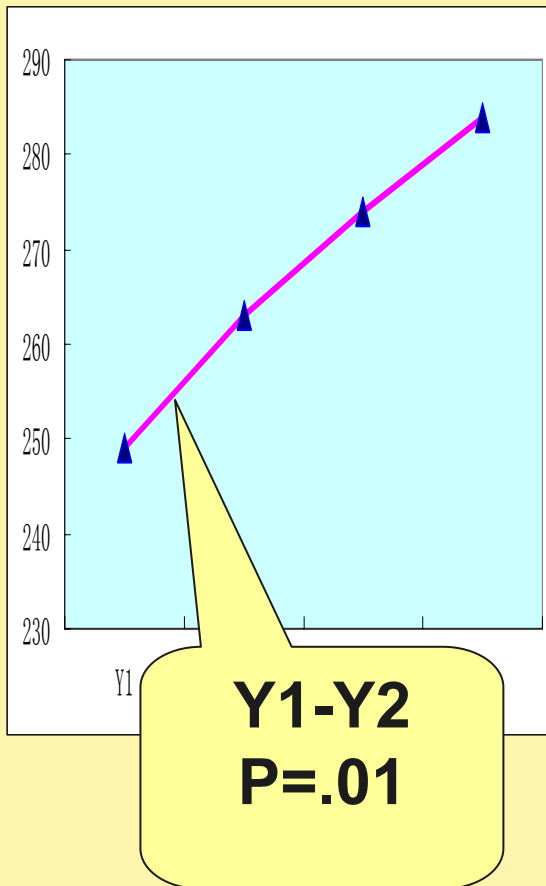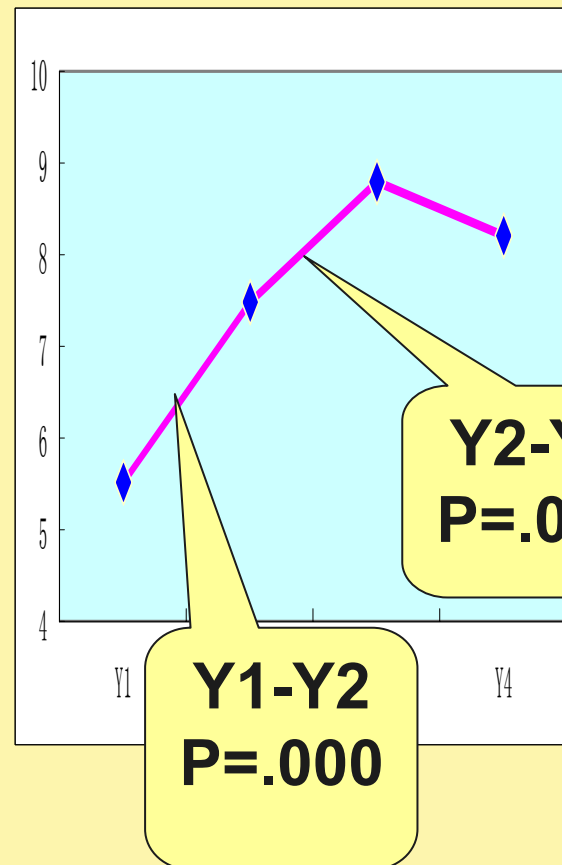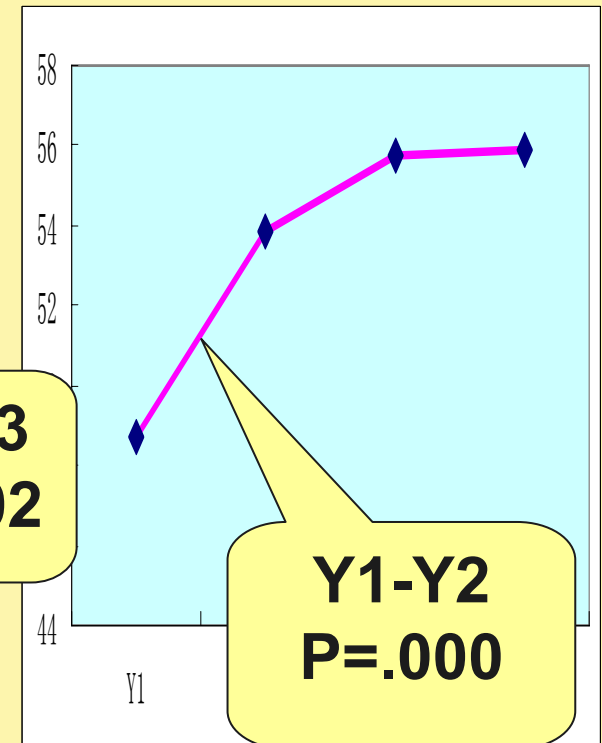
Research Question 2

◆ **Does task type (A narrative task and an argumentative task) affect the general developmental patterns of fluency, vocabulary size and lexical variation?**

Changes in fluency

	Narration		Argumentation	
	Mean	SD	Mean	SD
Y1	242	56.28	256	67.07
Y2	268	65.95	258	55.26
Y3	269	51.51	278	55.23
Y4	272	53.50	294	63.71
Y1 N-A	MD=-14		P =.027	
Y2 N-A	MD=10		P =.210	
Y3 N-A	MD= 9		P =.224	
Y4 N-A	MD=22		P =.002	

Changes in fluency
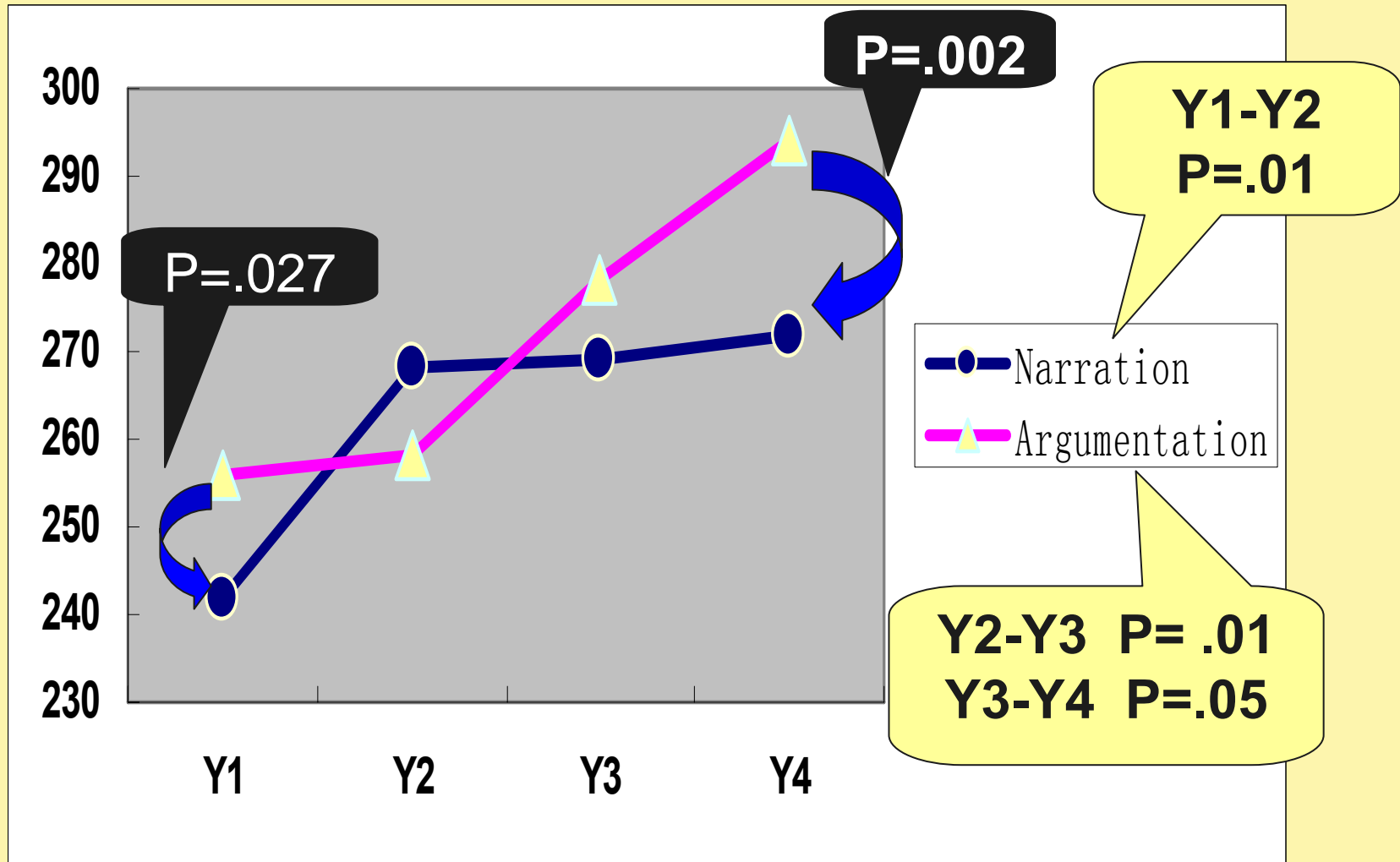
Changes in vocabulary size

	Narration		Argumentation	
	Mean	SD	Mean	SD
Y1	3.97	2.23	7.08	2.42
Y2	7.73	4.03	7.26	2.84
Y3	6.78	2.10	10.78	3.92
Y4	5.27	2.32	11.13	2.71
Y1 N-A	MD=-3.11		P = .000	
Y2 N-A	MD= 0.47		P = .450	
Y3 N-A	MD= -4.00		P = .000	
Y4 N-A	MD= -5.86		P = .000	

Changes in vocabulary size
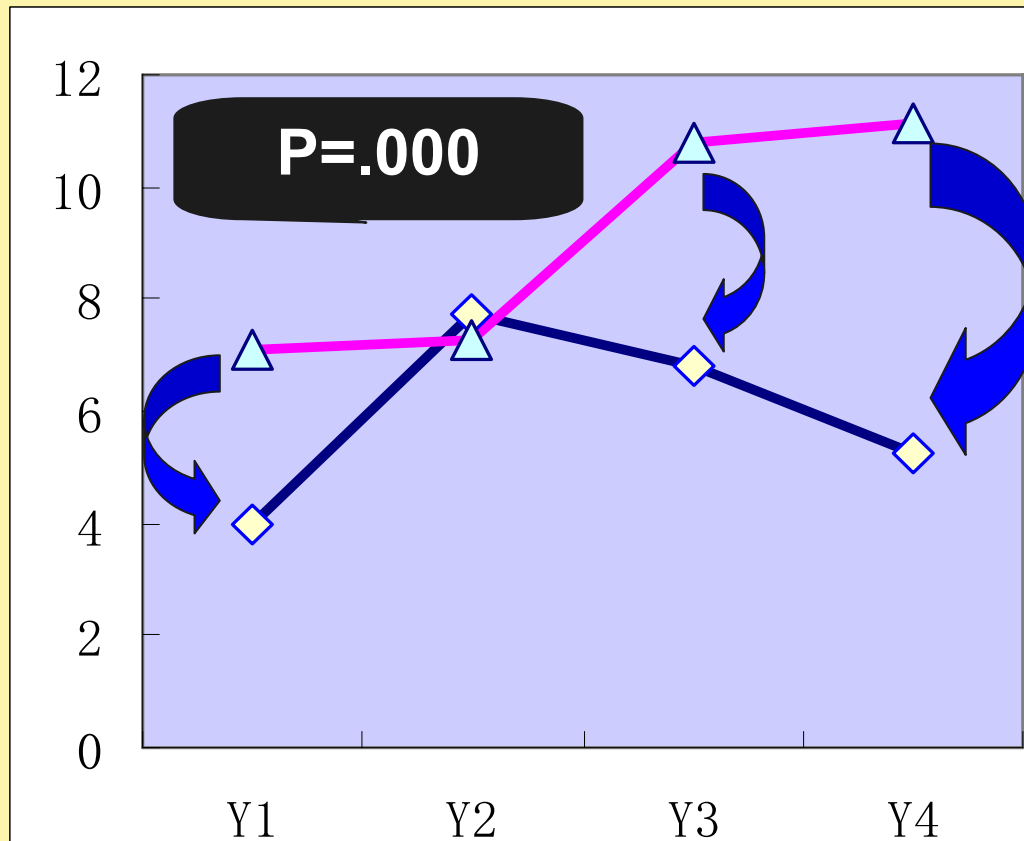
Changes in lexical variation

	Narration		Argumentation	
	Mean	SD	Mean	SD
Y1	52.15	9.28	45.10	7.09
Y2	59.84	11.11	47.80	7.88
Y3	58.08	9.27	53.24	8.96
Y4	56.93	9.97	54.68	9.39
Y1 N-A	MD=-6.92		P = .000	
Y2 N-A	MD= -12.11		P = .000	
Y3 N-A	MD= -4.78		P = .002	
Y4 N-A	MD= -2.38		P = .153	

Changes in lexical variation
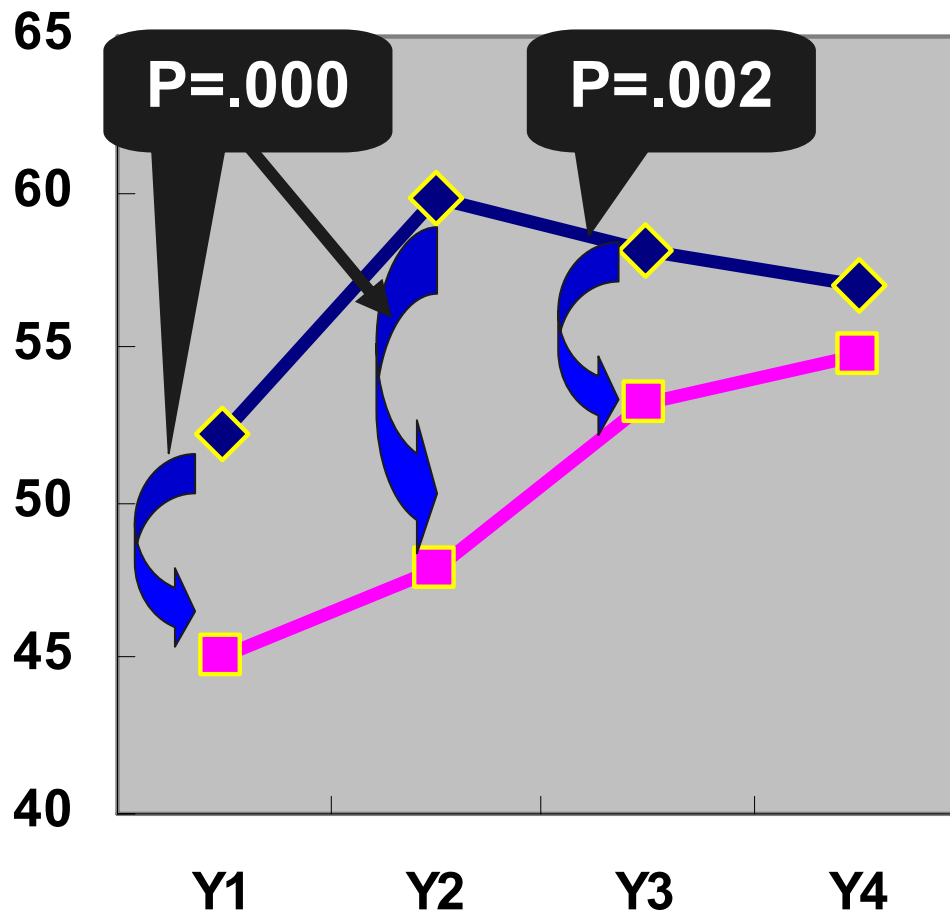
Comparing changes in two tasks

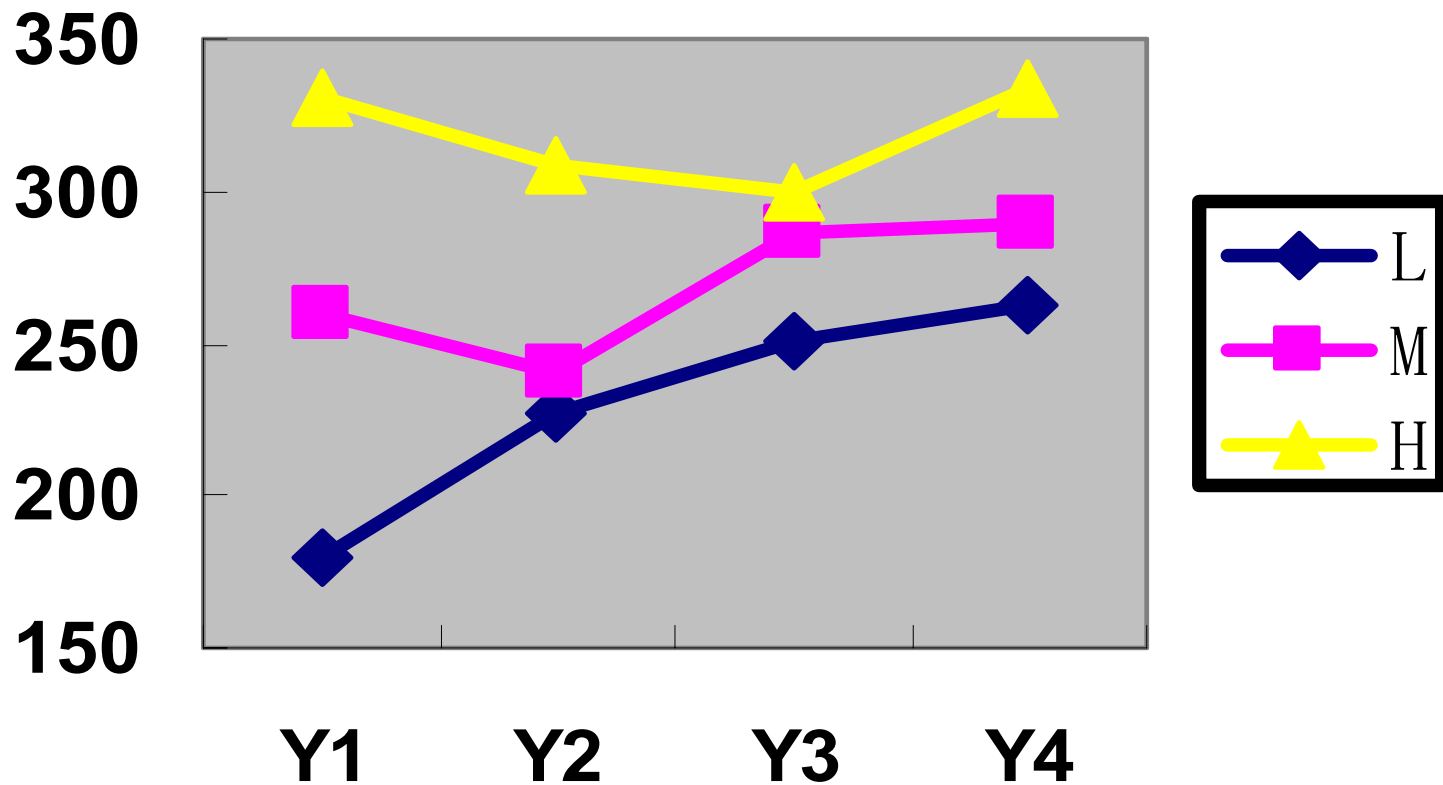**Fluency** **Vocabulary size** **Lexical variation**
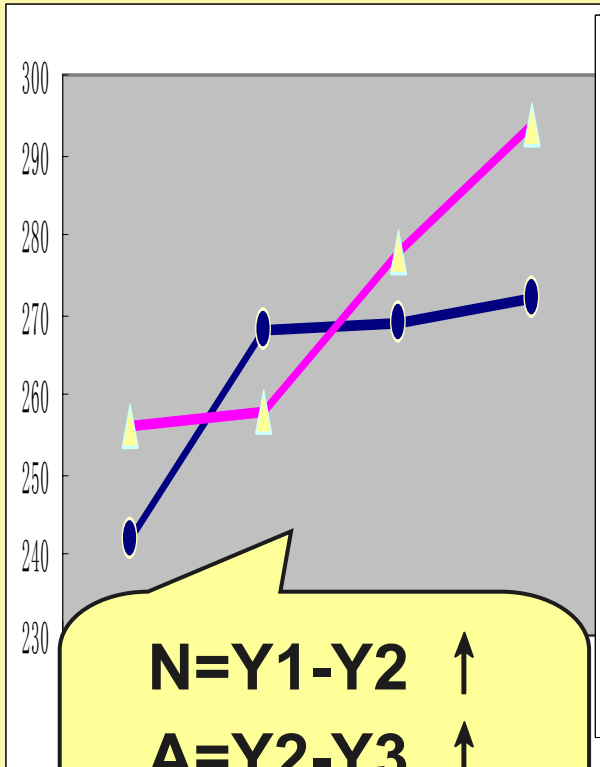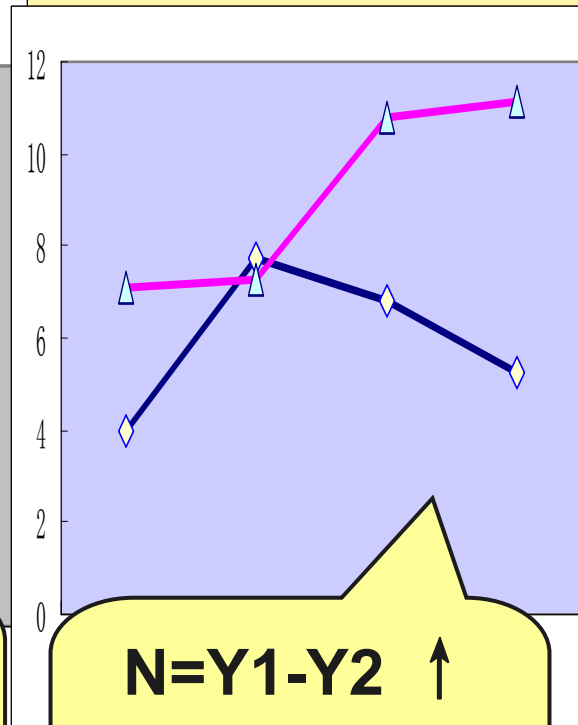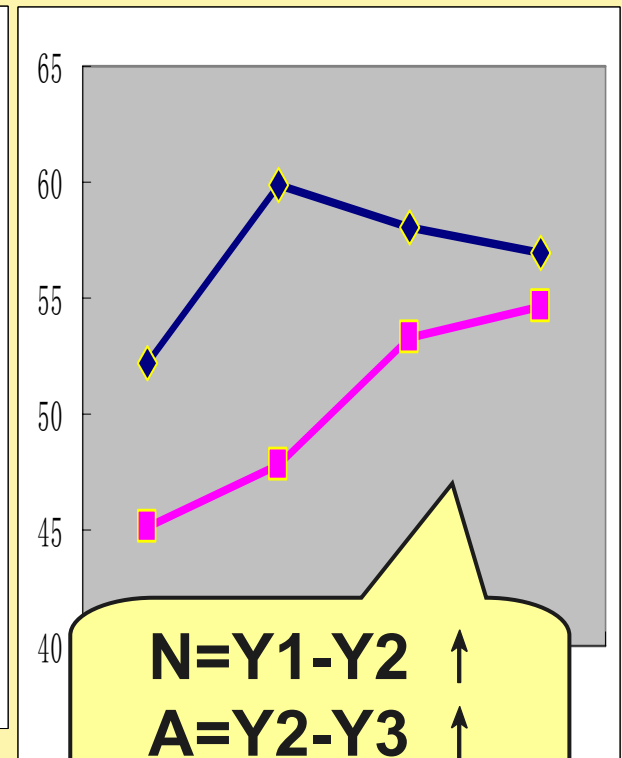
Question Three

◆ **Does entry-level affect the changing patterns of fluency, complexity and variation of argumentative vocabulary?**

Inter-learner differences

Fluency	Low-level	Mid-level	High-level
Y1	179	259	330
Y2	227	240	308
Y3	251	286	300
Y4	262	289	333

Inter-learner differences

Fluency

Inter-learner differences

Complexity	Low-level	Mid-level	High-level
Y1	4.43	7.09	9.72
Y2	6.74	7.09	7.93
Y3	9.09	11.48	11.82
Y4	0.79	12.25	11.42

Inter-learner differences
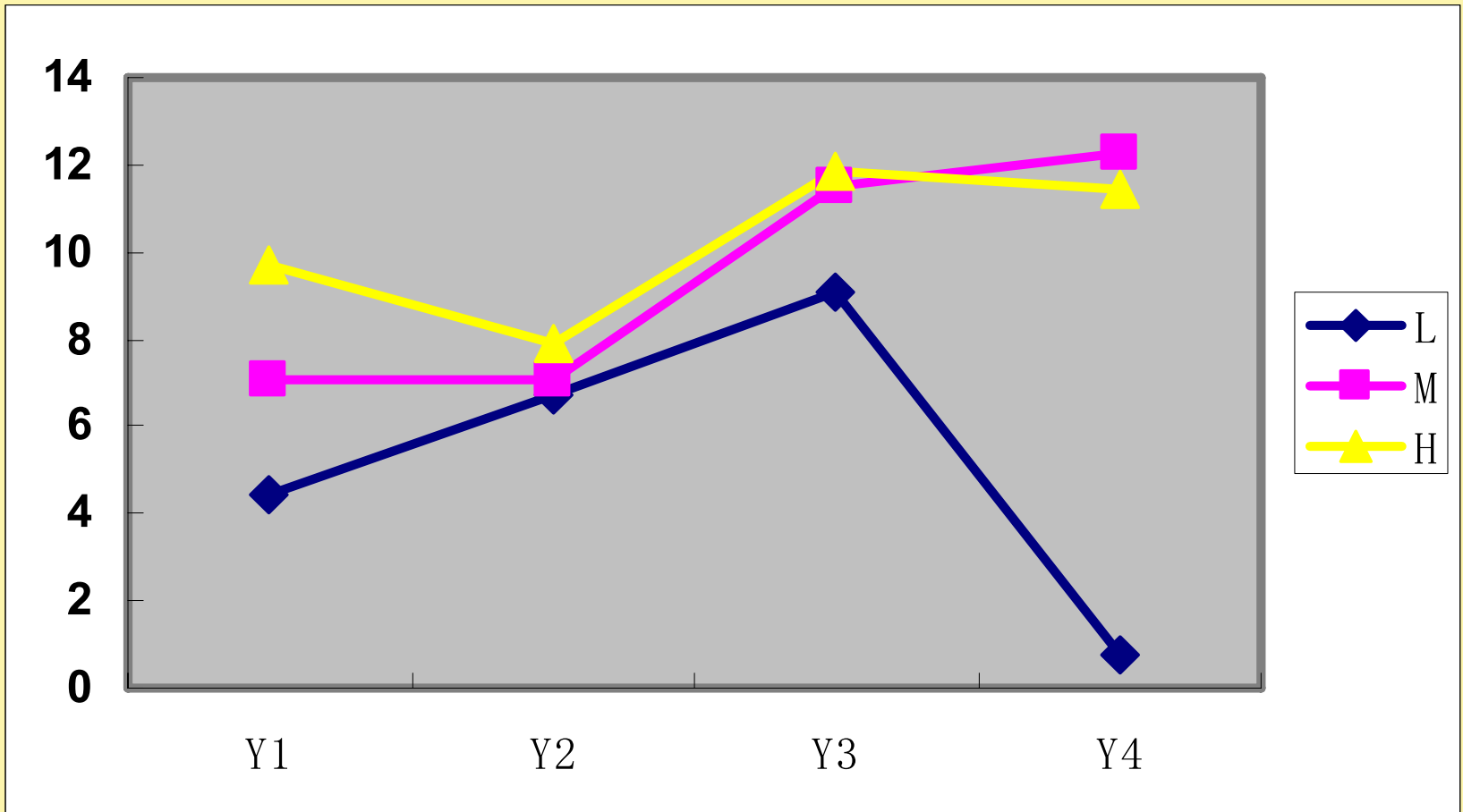
Complexity

Inter-learner differences

| Variation	Low-level	Mid-level	High-level
Y1	37.66	44.48	52.83
Y2	46.15	47.12	50.00
Y3	52.45	52.21	55.00
Y4	50.50	54.67	58.86

Inter-learner differences
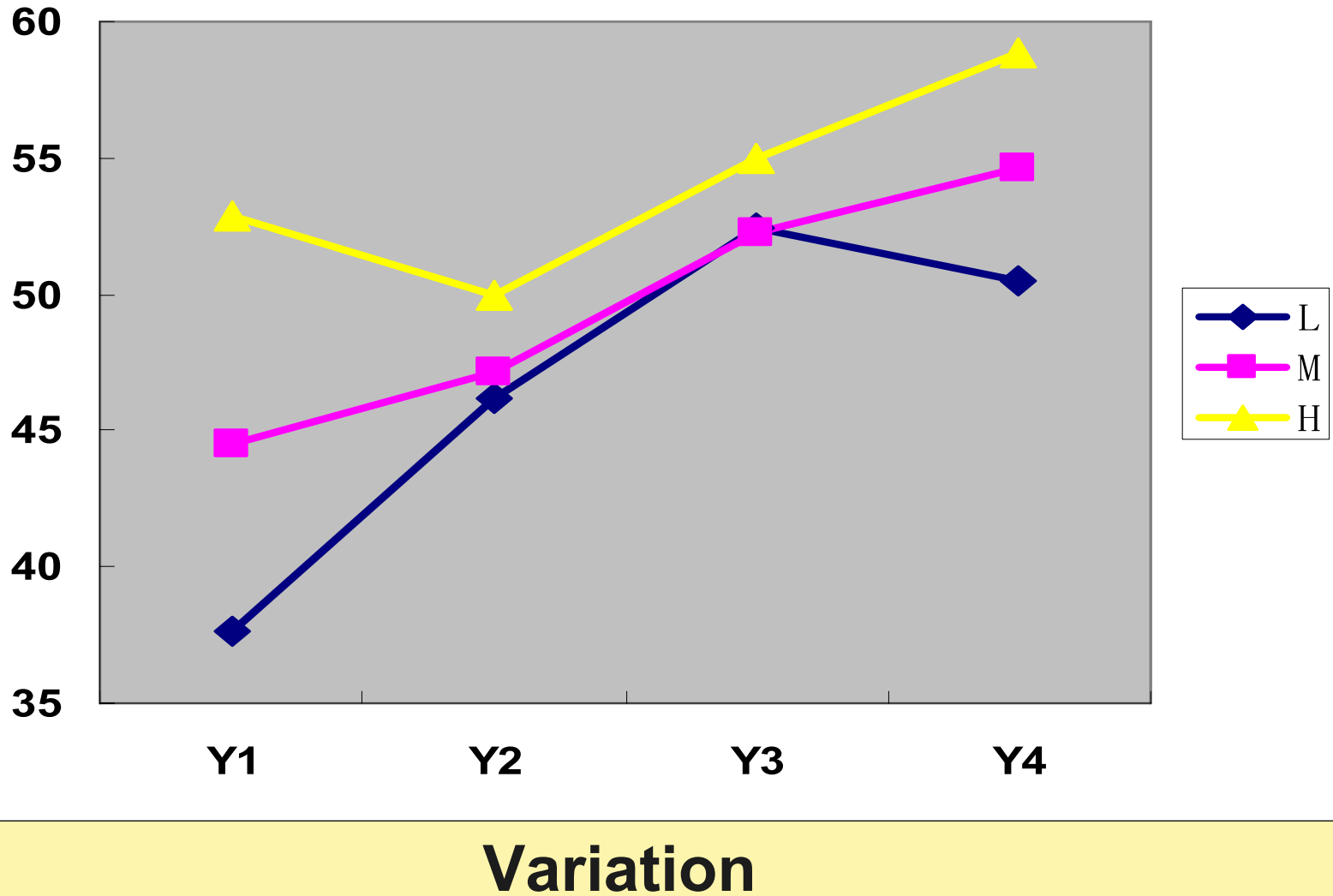
Part Three

◆ **Changes in different dimensions**

   ◆ **Accuracy**

   ◆ **Complexity**

   ◆ **Variation**

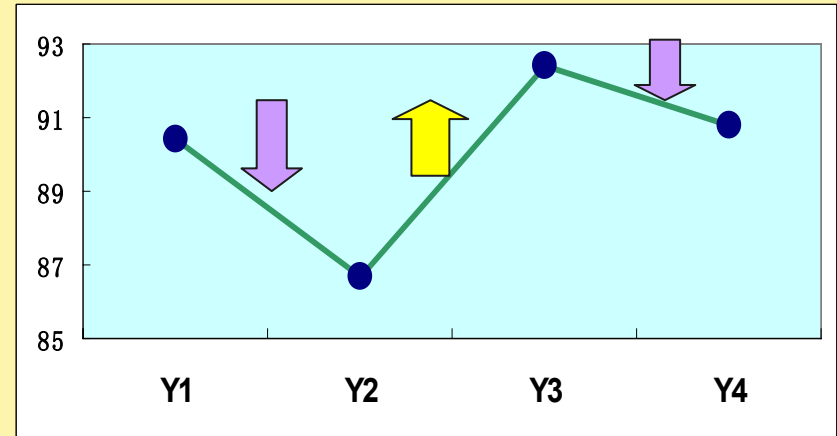**It is very difficult for the students to obtain past tense accuracy but easy to achieve NP and VP accuracy**

	PT	AG	FS	VP	NP
	%	%	%	%	%
Y1	73.5				
Y2	74.4				
Y3	73.7				
Y4	77.9	90.8	89	97.5	98.8
Average	74.9	90.1	90.3	97.1	98.7

Previous studies on PT accuracy 68% (Wen, 1995); 70% (1997); 68% (1998); 55.2% (Chen, 2002)
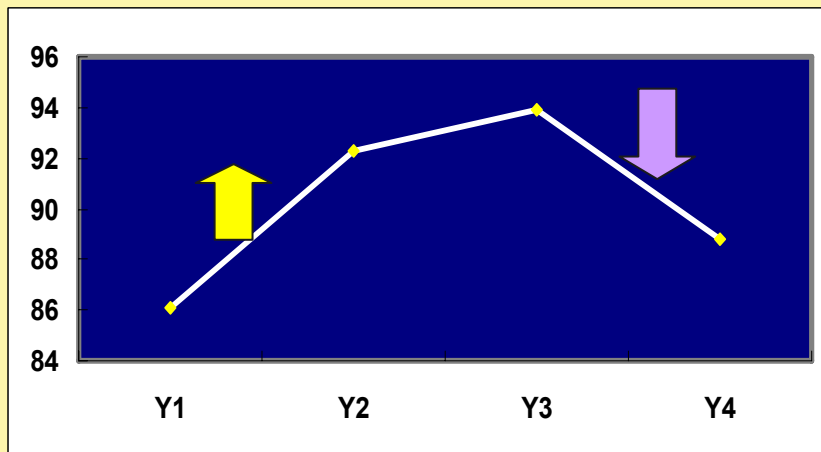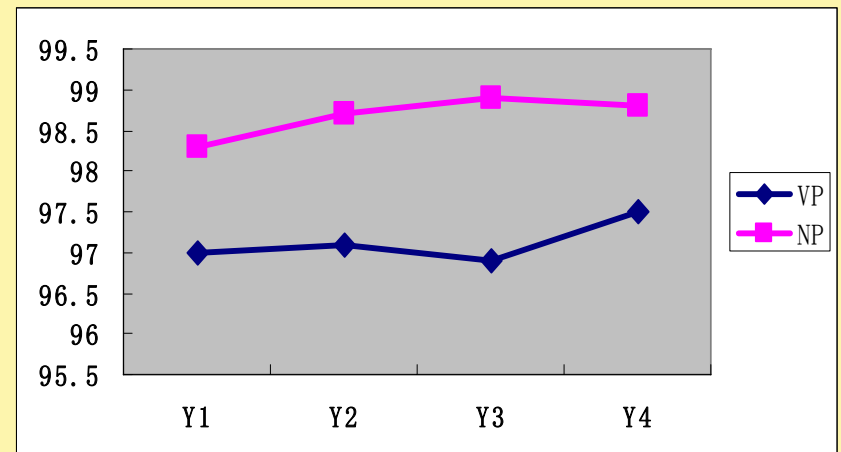
Accuracy: Pattern of change
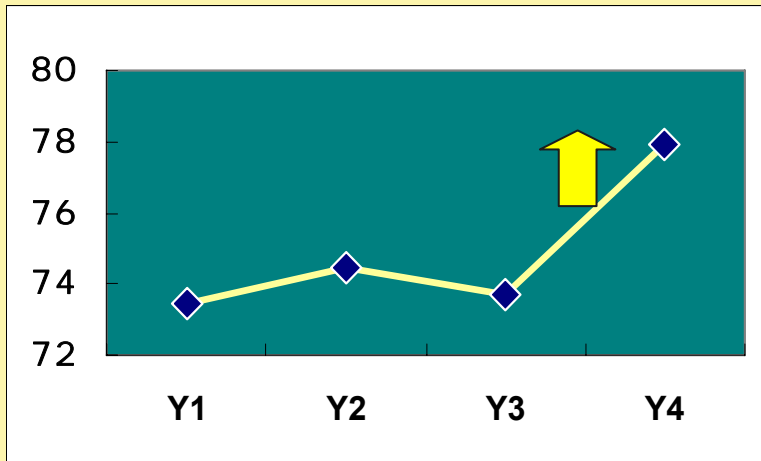
Past Tense

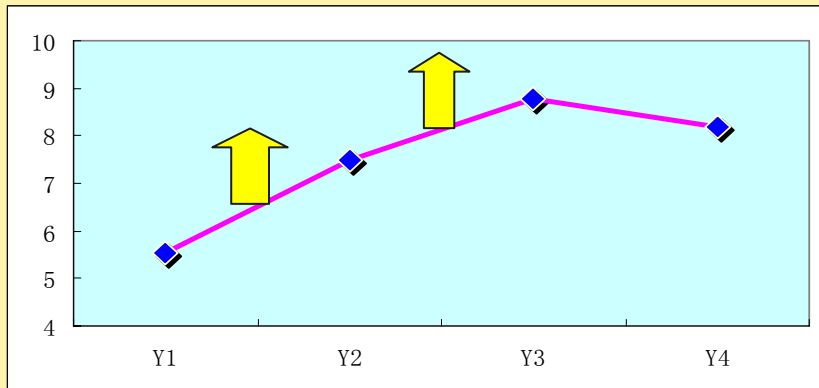**Agreement**

Formulaic sequences

VP & NP

Part Three

◆ **Changes in different dimensions**

- **Accuracy**

- **Complexity**

- **Variation**

The students made remarkable progress on the dimension of complexity.

	Vocab	VP	NP
	Mean	Mean	Mean
Y1	7.08	2.29	1.26
Y2	7.26	2.36	1.68
Y3	10.78	2.43	1.75
Y4	11.13	2.40	1.60

Complexity: Pattern of change

Vocabulary

VP

NP
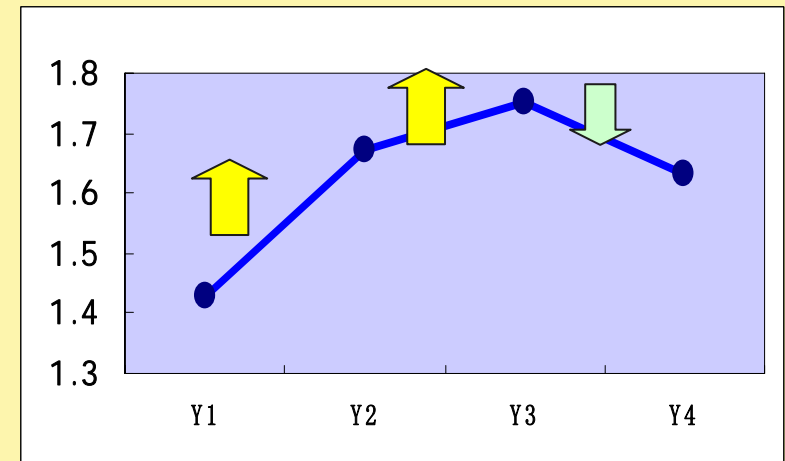
Part Three

- **Changes in different dimensions**
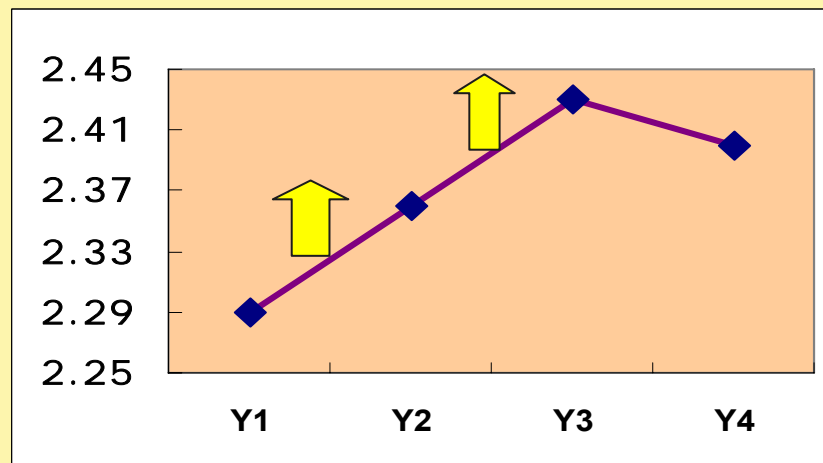 - **Accuracy**
  - **Complexity**
  - **Variation**

Variation of four modules

	Vocab	FS	VP	NP
	Mean	Mean	Mean	Mean
Y1	45.10	14.88	24.52	19.77
Y2	47.80	11.71	25.22	23.57
Y3	53.24	14.81	23.25	24.38
Y4	54.68	18.51	26.45	27.33
NS	67.11	21.38	45.03	32.88

Variation: Pattern of change
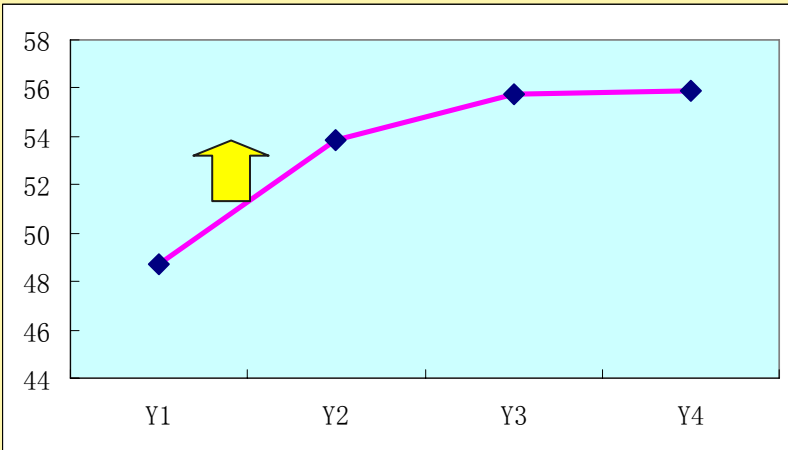
Vocabulary
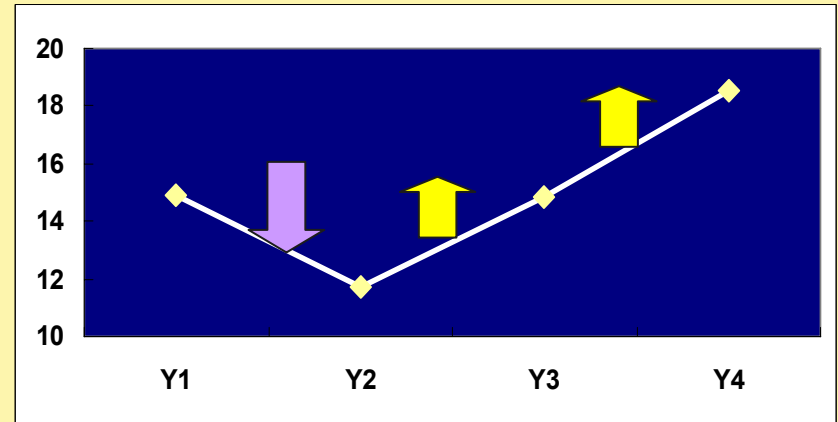
Formulaic Sequences
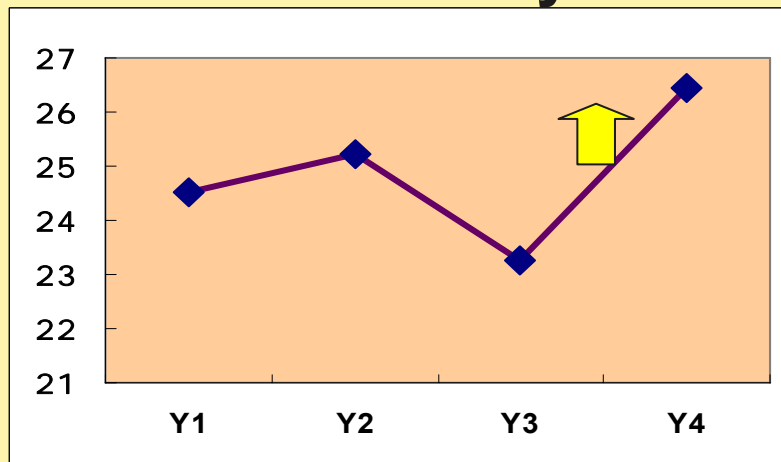
VP
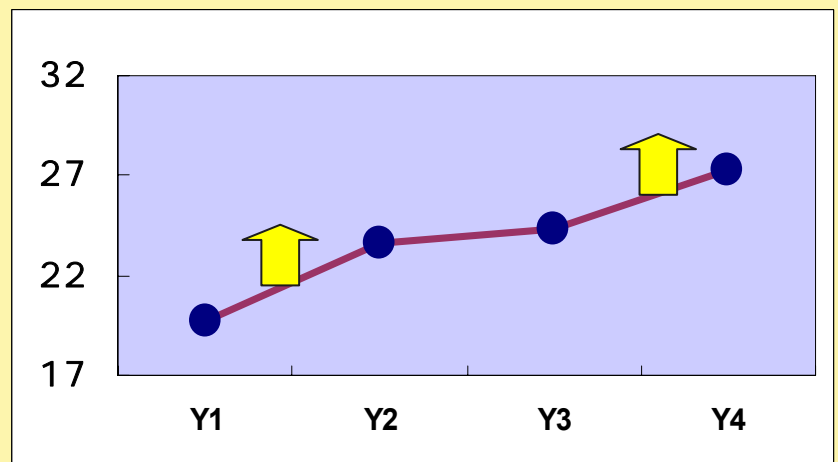
NP

Part Four

◆ **Major findings**

◆ **Theoretical implications**

◆ **Practical implications**

Major findings

◆ **Pattern of change**

◆ **Range of change**

◆ **Time for change**

◆ **Result of change**

Pattern of Change

		Fluency			Accuracy			Complexity			Variation		
		1	2	3	1	2	3	1	2	3	1	2	3
M	PT	/ (rising line)			—	—	↑	/ (rising line)			/ (rising line)		
	AG				↓	↑	↓						
S	NP	/ (rising line)			—	—	—	↑	↑	↓	↑	—	↑
	VP				—	—	—	↑	↑	—	—	—	↑
L	FS	↑	—	—	↑	—	↑	/ (rising line)			↓	↑	↑
	VO	↑	—	—	/ (rising line)			↑	↑	—	↑	—	—

Major findings

◆ **Pattern of change**

◆ **Range of change**

◆ **Time for change**

◆ **Result of change**

Range of Change

		Accuracy	Complexity	Variation
M		73.4-77.9		
		86.6-92.4		
S	NP	98.3-98.9	1.43-1.75	19.8-27.3
	VP	96.9-97.5	2.29-2.43	23.3-26.5
L	FS	24.4-30.0	86.1-93.9	11.7-18.5
	VO	249-284		5.52-8.78	48.7-55.9

PT=4.5%
AG=5.8%
VP=0.6%
NP=0.6%
FS=7.8%

Major findings

◆ **Pattern of change**

◆ **Range of change**

◆ **Time for change**

◆ **Result of change**

Y1-Y2 (↑)
1. FS fluency
2. FS accuracy
3. VO fluency
4. VO complexity
5. VO variation
6. NP complexity
7. NP variation
8. VP complexity

Y2-Y3 (↑)
1. AG accuracy
2. NP complexity
3. VP complexity
4. VO Complexity
5. FS Variation

Y3-Y4 (↑)
1. PT accuracy
2. FS accuracy
3. NP variation
4. VP variation
5. FS Variation

Result of Change

Complexity	Vocabulary	VP	NP
Y1	7.08	2.29	1.26
Y4	11.13	2.40	1.60
NSs	11.15	2.33	1.71
NNSs-NSs	-.02	.07	-.11

Result of Change

Variation	Vocabulary	FS	VP	NP
Y1	45.10	14.88	24.52	19.77
Y4	54.68	18.51	26.45	27.33
NS	67.11	21.38	45.03	32.88
NNS-NS	12.43	2.87	18.58	5.55
P	.000	.190	.000	.000

Result of Change

Fluency	Vocabulary	FS
Y1	256	97.38
Y4	294	100.48
NS	463	104.47
NNS-NS	-169***	-3.99

Major findings

◆ **Pattern of change**

◆ **Range of change**

◆ **Time for change**

◆ **Result of change**

A module-dimension hypothesis

◆**Linguistic changes vary from module-dimension to module-dimension and vary from sub-module-dimension to sub-module-dimension.**

◆**Therefore, to map out the linguistic changes, we have to specify which module-dimension is the focus.**

Part Four

◆ **Major findings**

◆ **Theoretical implications**

◆ **Practical implications**

Theoretical implications

◆ **The findings from this project suggest that the changes in different subsystems show diverse patterns which are in general non-linear and the same subsystem displays various patterns on different dimensions**

Theoretical implications

◆ **The findings also suggest that their changes occur locally, in a particular area on a particular dimension, rather than globally, or monolithically.**
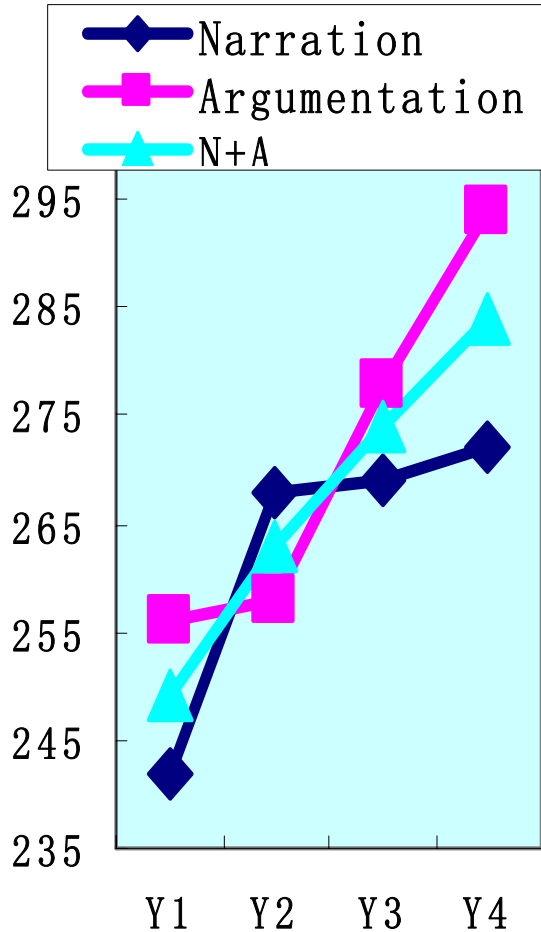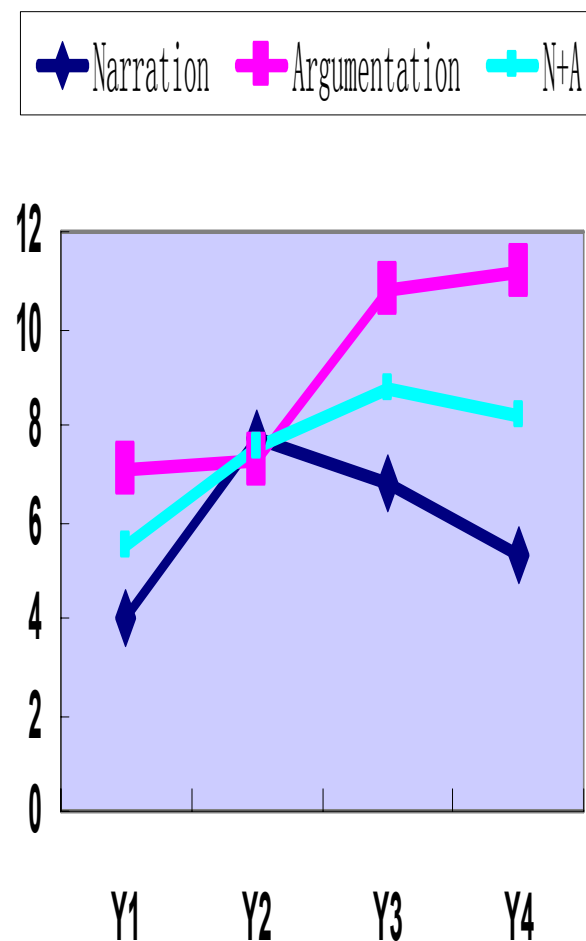
Methodological implication

◆ **For a longitudinal study, linguistic unit should be module-dimensional, sub-module-dimensional and even sub-sub-module-dimension; subject unit should be cross-learner, inter-learner and intra-learner. If we confine ourselves to one level only, the picture is most likely to be distorted.**
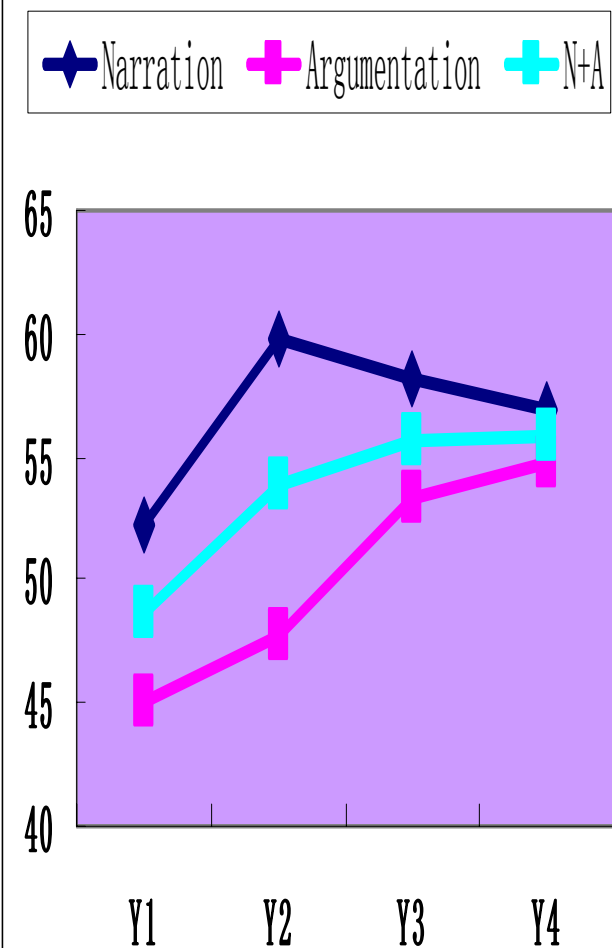
Changes in vocabulary

Fluency

Vocabulary size

Variation

Practical implication

◆ **More efforts should be made to improve English teaching at primary and secondary schools since morphological accuracy and syntactic accuracy has been achieved before they enter universities.**

Practical implication

◆ **Probably, we need to revise our instruction program. For example, to provide more intensive focus-on-form activities.**

The problem of comparability

◆ **Ortega & Iberri-Shea (2005: 39)**

"A special challenge with multiple data collection points that is likely to arise in any longitudinal SLA designs is the comparability of observations."

• Different tasks and topics: difficult to control the degree of difficulty.

• The same task and topic: difficult to maintain the students' interest and disentangle practice-induced effect.

The problem of comparability

◆ **The same tasks for Year One and Year Four.**

◆ **All the topics related to the university life although they are different.**

◆ **The same length of each interval between every two waves of data**

Thank You!!!

Classification

➢ **Determiner-noun agreement (DN)**

  ➢**three *books***

➢ **Subject-verb agreement (SV)**

  ➢**He *works* hard.**

➢ **Antecedent-pronoun agreement (AP)**

  ➢ **My brother rented an apartment in *his* junior year.**