The Development of L2
Oral Fluency in EFL
Classroom Setting

The Development of L2 Oral Fluency in EFL Classroom Setting

口语流利性发展

湖南教育出版社

图书在版编目(CIP)数据

口语流利性发展研究/张文忠著. 一长沙: 湖南教育出版社,2003.4

I.□... II.张... 其英语一口语—课堂教学—研究—英文 IV.H319.9

中国版本图书馆 CIP 数据核字(2008)第 020749 号

口语流利性发展研究

张文忠著

责任编辑:陈 凯

湖南教育出版社出版发行(长沙市韶山北路 643 号) 湖南新华书店经销 湖南广播电视大学印刷厂印刷 850×1168 32 开 印张:8.875 字数:228000 2002 年 10 月第 1 版 2002 年 10 月第 1 次印刷 印数:1—1000

> ISBN7-5355-3884-3/G·3879 定价:13.50元

本书若有印刷、装订错误,可向承印厂调换

PREFACE

This book constitutes part of an ongoing project that aims to describe the development of English majors' oral proficiency. Reported here is an investigation into the oral English fluency development of Chinese university students as revealed from their oral production, and the way the external learning context contributed to this development. The development of oral English fluency over time was investigated by comparing the subjects' oral production at two points in time. The external learning context under investigation included the subjects' classroom learning experiences and their contacts with English outside classes.

Based on Levelt's (1989) speech production model and Anderson's (1982, 1983) ACT* theory, a conceptual framework of L2 oral fluency development in the foreign language classroom setting was constructed, which outlined the relationship between the factors that influence the development of L2 oral fluency. It was proposed that L2 input is first noticed and taken up by learners, then processed by the learning mechanisms. Through the workings of the learning mechanisms, increase in English practice over time exerts deep influence upon L2 learners' speech production mechanisms. The effect of English practice is reflected as changes in the indices employed in the measurement of L2 oral fluency.

Data for the study were collected in a 28-week period from 12 first-year English majors in English Department of Wuhan University in China. The subjects were chosen from 22 volunteers out of the 64

students enrolled in 1997. Their English learning experience was observed and their oral fluency was tested before and after data collection. The data consisted of (i) the subjects' classroom English learning observed; (ii) information concerning their out-of-class contact with English provided by weekly questionnaires; (iii) information concerning a criterion against which the coherence of the subjects' speech could be judged; and (iv) the subjects' two narratives elicited at an interval of 28 weeks to determine the subjects' oral fluency development, and the orthographic transcriptions of the oral production.

It is found that the subjects have increased their ability to allocate their attentional resources to four aspects of speech production. These aspects are: (i) smoothness of speech delivery, (ii) coherence of speech content, (iii) complexity of syntactic structures employed, and (iv) variety of lexical items used. Their increasing ability appeared to be related to the proceduralization in the formulator in Levelt's terms, as can be seen from the improvement in fluency indices such as (i) speaking rate, (ii) phonation/time ratio, (iii) mean length of run, (iv) mean length of c-units after pruning, (v) 9-syllable repair-free speech runs, (vi) subordinate clauses per T-unit, and (vii) ratio of reformulation and replacements to total repairs. The proceduralization in the formulator not only freed some attentional resources for the choice of linguistic elements, but also helped reduce the cognitive demand on the Leveltan conceptualizer, making it possible for the subjects to pay more attention to the content of speech, as revealed by the improvement in the content index, i. e., ratio of reported necessary events to total necessary events.

It is concluded that L2 learners' oral fluency development is a demonstration of their development of on-line processing ability by way of the more efficient use of the partially proceduralized linguistic knowledge. However, as the subjects' degree of proceduralization is still very limited, the subjects are still at the "associative" stage in Anderson's terms. They are far from what Anderson called the "autonomous" stage where they could concentrate on what to say, and let language take care of itself. This is shown by the fact that the improvement in delivery smoothness, speech coherence, syntactic complexity and wider lexical variety was achieved at the expense of accuracy. To compensate for this deficiency, the subjects had to rely on the monitoring system or use other production strategies such as repetition to solve the problems.

This study is descriptive in nature, and is limited in at least two ways. First, although it touches upon the overall development of L2 oral fluency, only one phase in the process of development is dealt with, that is, the first year of their four-year English learning at college. A more complete picture of the development calls for further observations. Second, although inferential statistics is applied, I still feel it is difficult to decide to what extent the results can be generalized to the majority of freshman English majors learning the language at universities in mainland China.

Zhang Wenzhong Changsha, 2002

ACKNOWLEDGEMENTS

This book is based on my doctoral dissertation submitted to Guangdong Foreign Studies University in 1999. I owe my greatest debt of gratitude to my supervisor Dr. Xudong Wu, Professor, National Center for Linguistics and Applied Linguistics, Guangdong Foreign Studies University, for his guidance in the years between 1996 – 1999 when I was a doctoral student. He went through in great detail every draft of every chapter of this thesis, provided well-informed comments on the content and organization of the chapters, and helped improve the appropriateness of the English used. He taught me by his own example the qualities of a good researcher.

I also owe a great debt of gratitude to my co-supervisor, Professor Shichun Gui, National Center for Linguistics and Applied Linguistics, Guangdong Foreign Studies University, for his unfailing attention to the research reported in this book, as well as for the many valuable references and useful softwares for data analysis.

I am especially grateful to Professor Zufang Chen, Director of CET Testing Center (Wuhan), for his unfailing support; and to Professor Xiuzhen Wang, Wuhan University, for her unfailing encouragement and generous support throughout my study and research; to Dr. Chuming Wang, Professor, National Center for Linguistics and Applied Linguistics, Guangdong Foreign Studies University, for his constant encouragement and help with references; and to Dr. Huhua Ouyang, for the trouble he took in bringing me references from City University of Hongkong.

I also thank Professor Xuemei Liu, and my former colleagues Yiping Chen, Danni Dai, Guoqing Zhang, Jing Yu, Lan Yao, Xianfeng Tu of Wuhan University. They all supported me in countless ways.

At the same time I want to acknowledge the help and support from the first-year English majors who participated in the empirical part of this research.

All my former classmates at Guangdong Foreign Studies University have my gratitude. Thanks go to Qiming Zou, Wenxin Wang, Gang Wu, Huiyuan Chen, Xinren Chen, Xinhong Zhang, Hongbiao Chen and Ping Yang. In the course of our study, numerous "seminars" were held from which I benefited a great deal. Thanks also go to Jiayue Wang, Jianing He, Zhuo Xu and Chao Zheng who helped me relax with laughters in the long writing process.

I am also grateful to my wife, Heng Zhang, for her patience and support in the completion of this dissertation.

I am indebted to many professionals in the field whose names do not appear here, but who will recognize the influence of their contributions in the pages of this little book.

Finally, my heartfelt thanks go to the editors of Hunan Education Press whose professional help greatly facilitated the publication of this book.

CONTENTS

Chapter 1 Orientation of the Present Study, Its Rationale and Key
Research Questions 1
1.1 Orientation of the present study 1
1.2 Rationale 1
1.3 Key research questions 4
1.4 Content of remaining chapters 5
Chapter 2 Review of Related Research Literature 8
2.1 Need for indirect application of existing cognitive and SLA
theories ····· 8
2.2 Speech production
2.2.1 Pre-Leveltan speech production models 11
2.2.2 Levelt's (1989) "Speaking" model 13
2.2.3 De Bot's (1992) adaptation of Levelt's model for bilingual
oral production
2.3 Language skills development
2.3.1 Some learning theories
2.3.2 Anderson's Adaptive Control of Thought (ACT*)
21
2.3.2.1 The ACT* framework
2.3.2.2 The two processes and the five learning mechanisms
24
2.3.2.3 The three stages
2.4 The concept of oral fluency
2.4.1 L1 fluency 29

2.4.2 L2 fluency 3
2.5 Measuring L2 fluency
2.5.1 Factors influencing oral fluency
2.5.2 Indices commonly employed in the measurement of ora
fluency ····· 3
2.6 External learning contexts
2.6.1 The effect of classroom instruction on L2 learning ····· 3
2.6.2 External learning variables in the FL classroom setting
4
2.7 Empirical studies on L2 oral fluency development 4
2.8 Summary and conclusions 4
Chapter 3 A Conceptual Framework: Understanding the Development of
L2 Oral Fluency in the FL Classroom Setting 50
3.1 Prior considerations 50
3.2 Redefining L2 oral fluency 5
3.3 Fluency indices employed in the present study 52
3.4 External variables in the EFL classroom setting 56
3.5 Integrating external learning variables with Levelt's model
Anderson's model, and the fluency indices 58
3.5.1 Prior attempts 58
3.5.2 A general framework of L2 oral fluency development for the
present study ····· 60
3.5.2.1 Two types of mental representation of knowledge:
declarative and procedural 60
3.5.2.2 Two modes of information-processing; controlled and
automatic 61
3.5.3 Dissecting the framework 64
3.5.3.1 Relationships among L2 input, learning mechanisms,
production mechanisms and fluency indices 65

	3.5.	3.2	Relationships among types and amount of L2 pract	ice,
			learning mechanisms, production mechanisms	
			fluency indices	
	3.5.		Relationships among quality of L2 oral practice,	
	5.5		learning mechanisms, production mechanisms	and
			fluency indices	
3.6	Sur		of the conceptual framework	
			tions for the present research	
			search Design and Methodology	
			design	
			r considerations	
4			Nature of the design	
			Investigative approach	
	4.1.	1.3	Generalizability of the research results of the pre-	
			study with a small number of subjects studied	
4	.1.2		earch site	
4	.1.3	The	subjects	82
4	.1.4	Proc	edures of investigation	84
4.2	Inst	rumei	ntation ·····	87
4	.2.1		ervation of the subjects' classroom English learning	
				87
4	.2.2	Stud	ents' Background Information Questionnaire	87
4	.2.3	Daily	English Learning Questionnaire	88
4.	.2.4		English production: picture-story narration	
4	.2.5		essary Events Questionnaire	
4.3	Data			
			e frame for data collection	-
	3.2		subjects' classroom English learning experiences	
			careful and a second and	96

4.3.3 The	subjects' out-of-class contact with English	. 98
4.3.4 The	information conveyed in the picture story as descri	ibed
by tl	he students of the Humanities Experimental Class	
•••		. 99
4.3.5 The	subjects' oral production	100
4.4 Data prep	paration	101
4.4.1 The	subjects' classroom English learning experiences	
		101
	Classroom instruction	101
	Classroom practice	102
4.4.1.3	Classroom interactions	102
4.4.2 The	subjects' out-of-class contact with English	103
	ssary events of the picture story	104
4.4.4 The	subjects' oral production	104
4.4.4.1	Identification of pauses and calculation of the temp	oral
	indices ·····	105
4.4.4.2	Identification of errors, T-units and c-units and	
3	calculation of the linguistic indices	106
	Identification of repairs and calculation of the	
	performing indices	107
4.4.4.4	,	109
1.5 Data analy	ysis ·····	110
Chapter 5 Re	esults for the Subjects' Learning Contexts: Eng	lish
Le	earning in the Classroom and Out-of-class Con	
wi	th English ·····	111
8.1 Results fo	r the subjects' classroom English learning	111
	s of knowledge about English taught during instruc	
5.1.1.1	Comprehensive English (CE)	114

5.1.1.2 English Reading (ER) 117
5.1.1.3 English Listening (EL)
5.1.1.4 Oral English (OE) 119
5.1.1.5 Western Culture (WC)
5. 1. 2 Types of practice in English which the subjects were
required to do during classes 122
5.1.2.1 Comprehensive English (CE) ····· 122
5.1.2.2 English Reading (ER) 126
5.1.2.3 English Listening (EL)
5.1.2.4 Oral English (OE)
5.1.2.5 Western Culture (WC)
5.1.3 Classroom interactions ······ 130
5.1.3.1 Comprehensive English (CE)
5.1.3.2 English Reading (ER)
5.1.3.3 English Listening (EL)
5.1.3.4 Oral English (OE)
5.1.3.5 Western Culture (WC)
5.1.3.6 Summary of the subjects' classroom interactions
137
5.1.4 Summary of the subjects' English learning experiences in
the classroom ······ 139
5.2 Results for the subjects' out-of-class contact with English
142
5.2.1 Description of the Daily English Learning Questionnaire and
scoring methods 142
5.2.2 The amount of time the subjects spent on English practice
(DELQ data)
5.2.3 Summary of the subjects' out-of-class contact with English

Chapter	6 Results	for the	Subjects '	Learning	Outcor	nes :
	Develop	nent in Or	al English H	luency		149
	ntitative result					149
6.1.1	Temporal indi	ces ······	• • • • • • • • • • • • • • • • • • • •			150
6.1.1	1.1 Speaking	rate (SR)				151
6.1.1	1.2 Articulati	on rate (A	R)			151
6.1.1	1.3 Phonation	n/time rati	o (PTR) ··	• • • • • • • • • • • • • • • • • • • •		152
6.1.1	1.4 Mean len	gth of run	(MLR) ··	• • • • • • • • • • • • • • • • • • • •		152
6.1.1	.5 Average	ength of p	ause (ALP)		•••••	153
6.1.2	Content index	(Ratio of	reported nec	essary even	its, RN	E)
			• • • • • • • • • • • • • • • • • • • •			153
6.1.3	Linguistic indi	.ces	• • • • • • • • • • • • • • • • • • • •			154
6.1.3	3.1 Ratio of e	error-free 7	C-units (RE	T)		154
6.1.3			its after pru			
				• • • • • • • • • • • • • • • • • • • •	•••••	155
6.1.3	3.3 Subordina	ite clauses	per T-unit (SCT) ·····		155
6.1.4	Performing inc	dices ·····				155
6.1.4	.1 Repairs p	er 100 syll	ables (R100)	•••••	156
6.1.4			on and repla			
			• • • • • • • • • • • • • • • • • • • •		•••••	157
6.1.4	.3 Ratio of p	runed leng	th to total l	ength (RPI	(ر	157
6.1.5	Summary of th	ne quantita	tive results a	it the macro	level	
	·				•••••	158
6.2 Quan	ntitative results	:a micro v	iew			160
6.2.1	Speech run and	d pause ···		••••••		160
6.2.1	.1 The conce	ept of be-st	ructure-run			161
6.2.1	.2 Hypothese	s concerning	g learners' pro	duction of h	e-struct	ure-
	runs ····			••••••		163
6.2.2	Results		••••••	•••••••		165

6.2.2.1 Comparison between articulation rates for be-structure-runs
and for overall samples (ARB1 vs AR1; ARB2 vs AR2)
165
6.2.2.2 Comparison between average length of pause for be-
structure-runs and overall average length of pause
(ALPB1 vs ALP1; ALPB2 vs ALP2) ·········· 167
6.2.2.3 Comparison between mean length of be-structure-runs
and overall mean length of runs (MLRB1 vs MLR1;
MLRB2 vs MLR2) 168
6.2.2.4 Comparison between the temporal indices for be-structure-
runs in the pretest and posttest respectively 169
6.2.3 Summary of the quantitative results at the micro level
172
6.3 Qualitative results
6.3.1 Purposes of pauses
6.3.2 On-line speech processing ability 177
6.3.3 Past tense marking
6.3.4 Lexical use
6.3.5 Summary of the qualitative analysis 185
Chapter 7 Interpretation of Results
7.1 Major findings of the subjects' development in oral English
fluency
7.2 L2 oral fluency development over time in the FL classroom
setting: a general picture
7.3 To what extent the classroom learning contexts contributed to
the subjects' L2 oral fluency development 190
7.3.1 Development of L2 oral fluency in terms of speech-planning
efficiency as revealed by phonation/time ratio (PTR) and
average length of pause (ALP) 190

7.3.2	Development of L2 oral fluency in terms of on-line processing
	ability as revealed by the long error-free runs with 9
	syllables and above
7.3.3	Development of L2 oral fluency in terms of the smoothness
	of speech delivery as revealed by speaking rate (SR) and
	mean length of run (MLR) 193
7.3.4	Development of L2 oral fluency in terms of the coherence of
	speech as revealed by ratio of reported necessary events
	(RNE) 195
7.3.5	Development of L2 oral fluency in terms of linguistic
	complexity as revealed by subordinate clauses per T-unit
	(SCT) and mean length of c-unit after pruning (MLCP)
7.3.6	Development of L2 oral fluency in terms of linguistic
	accuracy as revealed by ratio or error-free T-units (REFT)
	and sensitivity of past tense
7.3.7	Development of L2 oral fluency in terms of lexical
	appropriateness as revealed by ratio of reformulation and
	replacements to total repairs (RRR) and by range and
	variety of lexical use
7.3.8	or anguage
	performance as revealed by the number of repairs per 100
	syllables (R100) and the ratio of pruned length to total
	length (RPL)
7.3.9	Development of L2 oral fluency in terms of rapidity in
-	articulation as revealed by articulation rate (AR) 202
7.3.10	and the greater marviadar differences
	in the subjects' development of L2 oral fluency 203
7.4 Sum	mary of the effect of learning contexts on the development of

	L2 ora	d fluency 204
Chapt	er 8	Conclusions, Implications and Recommendations
		207
8.1	Some	conclusions 207
8.2	Some	implications
8.3 Limitations of the present study and recommendations for futur		
	researc	ch
Refere	ences	
Appen	dix 1	Background Information Questionnaire (in Chinese)
		224
Appen	dix 2	Daily English Learning Questionnaire (in Chinese)
		225
Appen	dix 3	The Picture Story Adopted for the Elicitation of the
		Subjects' Oral Production and the Organization of
		Necessary Events in the Picture Sequence 227
Appen	dix 4	Necessary Events Questionnaire (in Chinese, with
		picture sequence) 230
Appen	dix 5	Reported Frequency of Active and Passive Questioning
		and Answering During Data Collection 231
Appen	dix 6	Amount of Time the Subjects Spent on the Various
		Types of English Practice
Appen	dix 7	Paired Sample T-test Results for the 12 Fluency Indices
		on the Pre-and Post-tests 233
Appen	dix 8	The Subjects' Raw Score for the Temporal Indices at
		Time 1 and Time 2
Appen	dix 9	T-test Results for Paired Samples for the Low
		Articulation Rates of the Six Subjects in the Pretest
		238

IX