行政院國家科學委員會專題研究計畫 成果報告

台灣學生對英語重音之習得:用優選理論的觀點分析英語單字重音

研究成果報告(精簡版)

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計 畫 主 持 人：許維真

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中 文 摘 要 ： 本計劃主要研究台灣學生對英語重音之習得，其旨在探討第二語言習得(英語重音習得)之過程中所產生重音變體，從 Prince 與 Smolensky (1993) 所提出優選理論之制約條件的觀點分析其英語重音變體的現象。本計劃擬將研究對象為 30 名來自兩所台灣大學之大一學生，來進行三個測驗，為 (1) 以產出(production)為主 (2) 以感知 (perception)為主及 (3) 感知/產出兼具等英語單字重音測驗。
本計劃另以優選理論的角度來檢視從測驗中所得到之語料庫，擬將用其制約條件及制約排列，分析英語重音變體之現象，並進一步說明這些重音變體的產生是由兩個重要制約條件 - 向左旁列(Align(left)) 及母音特質(Ident-IO(vowel)) - 所影響的。本計劃希望針對台灣學生的英語重音變體現象所提供的研究結果，能間接作為台灣英文教師在英語單字重音發音教學上的參考。

中文關鍵詞： 單字重音，重音變體，第二語言習得，感知與產出，優選理論，制約條件，制約排列

英 文 摘 要 ： This paper sheds some light on the issue by investigating the acquisition of English word stress by Taiwanese EFL learners. In particular, the paper aims to adopt the constraint-based Optimality Theory (Prince and Smolensky, 1993) as a linguistic model to examine stress alternations occurring in L2 acquisition. Accordingly, the researcher conducts an empirical study with three tasks that systematically investigate (1) the production only, (2) the perception only, and (3) the perception-production of English stress patterns produced by university students in Taiwan. Within the OT framework, the findings of this empirical research suggest that the two dominant constraints, Align (Left) and Ident-IO (vowel), lead Taiwanese EFL learners to produce non-target-like stress variants. The paper further shares some significant results of this data-based study in the hope of providing some pedagogical implications of teaching English pronunciation in the area of second language acquisition.

英文關鍵詞： word stress, variants, second language acquisition, perception versus production, Optimality Theory, constraints, constraint ranking

行政院國家科學委員會補助專題研究計畫成果報告

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目 錄

台灣學生對英語重音之習得：
用優選理論的觀點分析英語單字重音

L2 Stress Acquisition by Taiwanese EFL Learners:
An optimality-theoretic analysis of English word stress

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1. Introduction

With the boost of the Internet access and the awareness of economic globalization, English plays a crucial role for communication between various peoples in the world. In order to communicate effectively, acquiring good English pronunciation is of high importance and it has thus been receiving more attention in the course of second language (L2) acquisition. Achieving good pronunciation for L2 learners of English is attributed to articulate *both* correct segmental pronunciation and the accurate use of English prosodic features, such as word stress and sentence intonation.

Over the past few decades, second language phonology has gradually attracted more attention among researchers (Archibald, 1993, 1998; Hancin-Bhatt, 2000; Field, 2005; Pater, 1997). The general emphasis in this area mainly lies in the issue of speech segments (consonants and vowels) acquisition. Relatively, less interest has been paid to the domain of prosodic structure in English, in particular the acquisition of its stress placement. However, some research has shown that prosodic features are more important than segmental sounds in terms of intelligibility while communication takes place (Culter, Dahan, and Donselaar, 1997; Field, 2005).

In the last decade, Optimality Theory proposed by Prince and Smolensky in 1993 has gradually replaced the traditional rule-based derivations. Optimality Theory (henceforth OT) has developed a dominant role in current various linguistic fields and even extended to language acquisition: It has been applied to phonology, syntax, loanword phonology, first language acquisition and second language phonology (Kager, 1999; Yip, 2003).

This linguistic model, Optimality Theory, has advantages in explaining acquisition data owing to its evaluation of parallel candidates and violable constraints. Accordingly, OT has motivated an increasing number of empirical studies. A series of studies in the past decades has adopted OT to provide an explicit analysis of L2 acquisition data (Broselow, Chen, and Wang 1998; Hancin-Bhatt, 2000; Hsu, 2008; Kawagoe, 2003 and many others). This paper therefore offers an OT analysis to account for a variety of stress patterns produced by Taiwanese EFL learners in the course of L2 acquisition.

2. Purpose of the Study

The present study has a different focus from previous studies (Jian, 2006; Ou, 2007), namely to examine how the OT framework accounts for erred stress patterns occurring in a variety of task formality. As described in previous section, previous research of Taiwanese EFL learners acquiring English word stress has mainly focused on L2 word stress perception only. Accordingly, the researcher conducts an empirical study with three tasks that systematically investigate (i) the production only, (ii) the perception only, and (iii) the perception-production of English word stress produced by university students in Taiwan.

The two specific points are under investigation in the study are: (i) to examine the degree of difficulty of stress placement in task formality, and (ii) to examine how this constraint-based OT approach accounts for a variety of alternative forms in L2 stress acquisition.

3. Literature Review

Concerning the issue of acquiring English word stress by EFL learners, some studies in recent years have centered on this area (Archibald, 1993; Field, 2005; Jian, 2006; Kawagoe, 2003; Pater, 1997; Ou, 2007). First of all, L1 transfer is claimed to be an indication to stress placement in L2 acquisition (Archibald, 1993; Pater, 1997; Ou, 2007). Archibald (1993) stated that Hungarian and Polish EFL learners produced a similar stress pattern as in both of their L1s. The results of various accuracy percentages were claimed that the stress errors produced by Hungarian and Polish EFL learners resulted from the influence of their L1s and certain universal constraints. Similarly, both studies by Pater (1997) and Ou (2007) investigating French and Taiwanese EFL learners respectively further support the factor of L1 transfer (L1 interference) in L2 stress acquisition.

Optimality Theory (Prince and Smolensky, 1993) is a linguistic model that has been very pervasive, especially in phonology. OT is based on the assumption that Universal Grammar (UG) is composed of a set of structural and faithfulness constraints which make a surface form mirror its underlying representation. The violable constraints are resolved by a language-specific ranking of constraints. OT has therefore outshone the traditional derivational theory and attracted a great deal of interest and attention among researchers (cf. e.g. Kager, 1999, 2007; McCarthy, 2002; and many others).

In OT the selection of an optimal output is a function of the ranked set of constraints. Constraints are universal but rankings are not, and differences in the rankings of universal constraints result in different final outputs, thus accounting for language variation. This also suggests that cross-linguistic variations result from differences in constraint rankings.

Some researchers discuss how word stress is handled within OT in the area of L2

acquisition and metrical structure has also been a favorite topic in some OT phonology literature (Kager, 1999, 2007; Kawagoe, 2003). On a basis of constraints in metrical structure, several basic constraints defined in OT are given in (1a-c) (Kager, 2007; Prince & Smolensky, 1993).

(1) (a) TROCHEE
Stress is placed on left of the foot.
(b) FOOT-BINARITY (FTBIN)
A foot has to contain two moras or two syllables.
(c) WEIGHT-TO-STRESS PRINCIPLE (WSP)
Heavy syllables must be stressed.
(d) NON-FINALITY (NONFIN)
The final syllable of a word cannot receive main stress.

Furthermore, another important faithfulness constraint, IDENT[F]-IO, is introduced by McCarthy and Prince (1995). IDENT[F]-IO is a constraint that a corresponding output segment possess the same feature value [F] as its input form.

To sum up, this section has provided a comprehensive overview of the research on L2 stress acquisition and some constraints on stress in OT framework, as to make reference to the later discussions of the study.

4. Methods

A total of 15 subjects in their first year at a private university in Taiwan participated in this study. They are all English majors, with a minimum six-year period of learning English prior to participating in the study. In December 2010 all participants were given a questionnaire with several questions concerning their English language and education backgrounds. So any participant who had stayed in an English-speaking country over six months was excluded.

This test material contains a list of 25 real English words. These words are chosen based on multisyllabic structures: 10 target words are disyllables with either first or final stress (five words under each category) while the other 15 words are English trisyllables with first, penultimate, or final stress (five words under each category). For instance, examples for disyllabic pairs and trisyllabic sets are given as in (2) and (3).

(2) Disyllabic words
(a) stress on the first syllable: purpose, perfect
(b) stress on the second syllable: machine, career
(3) Trisyllabic words
(a) stress on the first syllable: accident, company
(b) stress on the second syllable: opponent, deposit
(c) stress on the final syllable: entertain, disappoint

This list of 25 words in the study is chosen from the College Entrance Examination Center (CEEC) English Reference Word List 7,000 (MOE, 1995). Of course, all target words are mixed up and listed randomly on a given paper, to reduce the effect of participants' awareness of the real purpose of testing stress placement.

A native speaker of American English was asked to record this set of 25 words twice: an interval of two seconds between words for participants to place a primary stress in the perception-only task, and another interval of five seconds between words for participants' repetition in the perception-production task. The recording was made digitally on a recorder using a studio-standard microphone. Each participant was instructed to perform three tasks and their utterances were recorded by using a high-quality portable digital recorder.

In order to facilitate discussion in the following sections, the results of the three tasks are tabulated and shown in Appendix *A* based on the number of syllables, namely disyllabic words and trisyllabic words. More specifically, the production data of disyllabic and trisyllabic groups are further subcategorized by stressed syllables, e.g. σ́σ, σσ́, σ́σσ, σσ́σ, σσσ́. In addition, the two tables with percentages in (4) and (5) are taken from the descriptive statistics of Appendix *A*. The numeric results in these two tables are important because the overall percentages will allow further discussions in section 4.

(4) *Table 1:* Accuracy/Inaccuracy Percentages of Task 1 (Production-only)

	σ́σ	σσ́	σ́σσ	σσ́σ	σσσ́
Accuracy (%)	65	40	61	56	49
Inaccuracy (%)	35	60	39	44	51

(5) *Table 2:* Accuracy/Inaccuracy Percentages of Task 2 (Perception-only)

	σ́σ	σσ́	σ́σσ	σσ́σ	σσσ́
Accuracy (%)	51	43	59	61	24
Inaccuracy (%)	49	57	41	39	76

5. Results and Discussion

Section 5.1 first presents the degree of difficulty of stress patterns in a variety of task tests, whereas section 5.2 provides an OT analysis of constraint variations in L2 stress acquisition.

5.1. Degree of difficulty of stress placement in task formality

As stated in section 4, Tables 1 and 2 in of (4-5) describe the results of accuracy/inaccuracy

percentages of the production-only task (Task 1) and the perception-only task (Task 2). The two tables reveal two points. First, the results indicate that disyllabic and trisyllabic words with final stress appear to be the most challenging stress patterns for the participants in the two task tests. Consider the degree of difficulty of producing stress patterns by Taiwanese EFL learners in Tasks 1 and 2 based on their inaccuracy percentages in Tables 3 and 4 (the figures are mainly taken from Table 1 and Table 2).

(6) *Table 3:* Percentages of Task 1: Production-only*:

Disyllabic words	**σσ́ (60%)** > σσ (35%)
Trisyllabic words	**σσσ́ (51%)** > σσσ (44%) > σσσ (39%)

* The figures in the parenthesis indicate inaccuracy percentages.

(7) *Table 4:* Percentages of Task 2: Perception-only*:

Disyllabic words	**σσ́ (57%)** > σσ (49%)
Trisyllabic words	**σσσ́ (76%)** > σσσ (41%) > σσσ (39%)

* The figures in the parenthesis indicate inaccuracy percentages.

According to the rankings in Tables 3 and 4 of (6-7), the participants have the highest inaccuracy percentages (all above 50%) of disyllabic and trisyllabic words with final stress. This finding clearly suggests that the position of a stressed syllable can cause various degrees of difficulty in identifying a word stress. That is, disyllables and trisyllables with final syllable stress are more difficult for L2 learners to locate main stresses than those multisyllables with initial syllable stress.

Second, consider the figure in Appendix *A*. In the perception-production task test (Task 3), the accuracy percentages of each category in multisyllables are all remarkable: a large percentage over 98% for each category. In Task 1 and Task 2 by contrast, their overall accuracy percentages are much lower, ranging from 65% to 24%. According to the results of Tasks 2 and 3 in Appendix *A*, it shows that participants have great difficulty in identifying correct main stresses in written forms. This finding indicates that these EFL learners have certain degree of difficulty distinguishing contrasts between strong/weak syllables within a word.

5.2. An analysis of constraint variations in L2 stress acquisition

English markedly differs from Chinese in prosodic structure due to the fact that English is referred to as a stress language whereas Chinese as a tone language. With the significant difference in prosody between the two languages, those Taiwanese EFL learners produce some stress deviants occurring in the learning process. Accordingly, this section presents a discussion of constraint variation on stress patterns in the course of L2 acquisition. The

discussion will be limited to the most typical stress deviants (i.e. stress deviants with high percentage of inaccuracy marked in Appendix *A*) attested during acquiring English word stress.

We shall in the first place explore how the OT model develops a constraint ranking in terms of English word stress. In English, as stated in section 3, syllable weight in a foot-form plays a key role in determining stress placement and thus the stress pattern of strong-weak syllable is observed in English prosody. On the basis of some constraints on foot formation given in section 3, Tableau 1 in (8) is provided to illustrate a basic ranking order for English stress patterns.

(8) Tableau 1: WSP, IDENT-IO (Vowel) >> TROCHEE, FTBIN >> NONFIN (L1 grammar of English)

Input: antique /ænˈtiːk/	WSP	IDENT-IO (Vowel)	TROCHEE	FTBIN	NONFIN
a. (ˈæ nti:k)	*!				*
☞b. (ænˈtiːk)			*		
Input: entertain /ˌɛn tərˈteɪn/	WSP	IDENT-IO (Vowel)	TROCHEE	FTBIN	NONFIN
c. (ˈɛn tər)(teɪn)	*!				
d. (ɛnˈ tər)(teɪn)	*!		*		
e. (ˈɛn tər)(tɛn)		*!			*
☞f. (ɛn tər)(ˈteɪn)			*		*

In the Tableau 1 the two constraints, WSP and IDENT-IO (Vowel), are ranked higher than TROCHEE, FTBIN and NONFIN. This shows that stress placement in English is sensitive to a syllable weight, i.e. heavy syllables receive stress. The dominance of the WSP constraint eliminates candidates (8a) and (8c-e) due to those candidates failing to attract stress in heavy syllables.

Next, let us consider another constraint ranking in the course of acquiring English word stress. With stress deviants occurred in L2 acquisition, there seems to be some variations in constraints in a learning process. According to the numeric results in Appendix *A*, there are some high inaccuracy percentages of certain disyllabic/trisyllabic words due to misplacing primary stress to other syllables. Thus, a crucial constraint is introduced to account for such phenomena of misplaced stress patterns in multisyllabic words: the constraint ALIGN (Left) in (9).

(9) ALIGN (Left)

Align the left edge of a prosodic word with the main stress to a foot.

Now consider how the constraint ALIGN (Left) interacts with other constraints in Tableaux 2 and 3. The difference between the two tableaux lies in the feature value of a vowel: The change of a vowel in a syllable does not attract a main stress in Tableau 2 of (10) and the

change of a vowel in a syllable attracts a main stress in Tableau 3 of (11).

In the following tableaux the constraint ALIGN (Left) compels main stresses on initial syllables such as /ˈæntik/ and /ˈɛntərtɛn/ although the four optimal candidates (10a), (10c), (11a), and (11d) violate the two constraints, WSP and IDENT-IO (vowel), which have been demoted in L2 acquisition.

(10) Tableau 2: ALIGN (Left) >> FTBIN, WSP, IDENT-IO (vowel) (L2 interlanguage grammar)

Input: antique /ænˈtiːk/	ALIGN (Left)	FTBIN	WSP	IDENT-IO (vowel)
☞a. (ˈæntik)			*	*
b. (ænˈtik)	*!		*	*
Input: entertain /ˌɛntərˈteɪn/	ALIGN (Left)	FTBIN	WSP	IDENT-IO (vowel)
☞c. (ˈɛntər)(tɛn)				*
d. (ɛnˈtər)(tən)	*!			*
e. (ɛntər)(ˈteɪn)	*!		*	

(11) Tableau 3: ALIGN (Left) >> FTBIN, WSP, IDENT-IO (vowel) (L2 interlanguage grammar)

Input: occur /əˈkɜr/	ALIGN (Left)	WSP	FTBIN	IDENT-IO (Vowel)
☞a. (ˈɔkəl)		*		**
b. (ɔˈkɜr)	*!			*
c. (əˈkɜr)	*!			
Input: opponent /əˈponənt/	ALIGN (Left)	WSP	FTBIN	IDENT-IO (Vowel)
☞d. (ˈapɔ)(nənt)		*		**
e. (aˈpə)(nənt)	*!	*		**
f. (ə)(ˈponənt)	*!		*	

In addition, both Tableaux 2 and 3 also illustrates the suppression of IDENT-IO (Vowel), showing that the L2 ranking is supplanting the L1 ranking in English in the interlanguage grammar

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From both Tableaux 2 and 3 in (10-11), it clearly shows that the dominance of ALIGN (Left) indicates that IDENT-IO (Vowel) is demoted at the stage of L2 acquisition when a main stress is shifted to an initial syllable from other syllable. Accordingly, constraint variation

occurs, as a result of constraint re-ranking in the process of acquiring word stress. The outranking of ALIGN (Left) over WSP and IDENT-IO (Vowel) suggests that constraint variation on production of stress pattern exists at the intermediate stages of L2 acquisition with respect to stress deviants.

6. References

Archibald, J. (1993). *Language Learnability and L2 Phonology.* Dordrecht: Kluwer Academic Publishers.

Archibald, J. (1998). *Second Language Phonology.* Amsterdam: John Benjamins Publishing.

Broselow, E., S.I. Chen, and C. Wang (1998). 'The emergence of the unmarked in second language phonology.' *Studies in Second Language Acquisition 20*: 261-80.

Culter, A. Dahan, D. van Donselaar, W. (1997) Prosody in the Comprehension of Spoken Language: A Literature Review. *Language and Speech*, 40 (2), 141-201.

Field, J. (2005). Intelligibility and the Listener: The Role of Lexical Stress. *TESOL Quarterly*, 39(3), 399-423.

Flege, J. E. & Bohn, O.S. (1989) An Instrumental Study of Vowel Reduction and Stress Placement in Spanish-accented English. *SSLA* 11, 35-62.

Hancin-Bhatt, B. (2000). Optimality in second language phonology: codas in Thai ESL. *Second Language Research* 16.3: 201-232.

Hsu, W.C. (2008). *An OT Perspective on Second Language Phonology: Acquisition of English Word-Final Consonants by Mandarin-Taiwanese Learners.* Unpublished doctoral dissertation, University of Essex, UK.

Jian, H. L. (2006) Lexical Stress Realization: Native vs. ESL Speech. *Speech Prosody 2006*, Dresden, Germany, ISCA Archive, http://www.isca-speech.org/archive

Kager, R. (1999) *Optimality Theory*. Cambridge: CUP.

Kager, R., (2007). Feet and Metrical Stress. In P. de Lacy. (ed), *The Cambridge Handbook of Phonology.* UK: CUP. 195-227.

Kawagoe, I. (2003) Acquisition of English Word Stress by Japanese Learners. In *Proceedings of the 6th Generative Approaches to Second Language Acquisition Conference (GASLA 2002)*, (ed.) Juana M. Liceras et al., Somerville, MA: Cascadilla Proceedings Project. 161-167.

McCarthy, J. (2002). *A Thematic Guide to Optimality Theory.* US: CUP

McCarthy, J. and A. Prince (1995). Faithfulness and reduplicative identity. In J. N. Beckman, L. Walsh Dickey, and S. Urbanczyk (eds.) Papers in Optimality Theory. *University of Massachusetts Occasional Papers in Linguistics 18. Amherst*: GLSA. 249 - 384.

MOE 教育部 (1995) 高級中學課程標準，台北 http://www.ceec.edu.tw/Research/paper_doc/ce37/ce37.htm

Ou, S.C.. (2007). Linguistic factors in L2 word stress acquisition: A comparison of Chinese and Vietnamese EFL learners' development. *Proceedings of the16th ICPhS*, 1681-1684.

Pater, J. (1997) Metrical Parameter Misetting in Second Language Acquisition. In S.J. Hannahs & M. Young-Scholten (eds.) *Focus on phonological acquisition*, Amsterdam: John Benjamins, 235-261.

Prince, A. and P. Smolensky (1993) *Optimality Theory: Constraint interaction in generative grammar.* MS: Rutgers University and University of Colorado, Bounder.

Yip, M. (2003) Perceptual influences in Cantonese loanword phonology. *PDF: C:\moira\LOANS\japanfin.wpd*

7. Research/Study Self-Assessment

(1) This project successfully investigates how this theoretical OT model interprets a set of L2 stress deviants produced by Taiwanese EFL learners. The results of these three tasks have shown that (i) there is a clear connection between stress placement and task formality, and (ii) certain stress deviants occurring in L2 acquisition are mainly attributed to the preference of shifting a main stress to an initial syllable.

The first finding suggests that Taiwanese EFL learners have high inaccuracy percentages of stress placement for multisyllabic words in the production-only and perception-only tasks. In particular, the main stress in a final syllable of multisyllabic words appears to be the most challenging for Taiwanese EFL learners in the study. The second finding demonstrates that a model of constraint-ranking in OT can account for stress acquisition data by L2 English learners. The dominance of ALIGN (Left) compels the main stress to fall on an initial syllable in the case of Taiwanese EFL learners. In addition, the demotion of IDENT-IO (Vowel) shows that a change of vowel quality is inactive in L2 stress acquisition.

(2) The project is of particular importance to the area of L2 acquisition because it provides some important findings within OT framework, to enhance more understanding in the area of L2 prosodic acquisition by Taiwanese EFL learners. In addition, the study aims to offer some insightful generalizations to the acquisition of English stress patterns, especially the EFL learners whose L1 is a tone language. As a language instructor, there is an urge to address the importance of acquiring accurate English word stress in pedagogical teaching since word stress does impede intelligibility.

Appendix A. Percentages of a Variety of Task Tests

	Task 1				Task 3				Task 2			
	Accuracy	%	Inaccuracy	%	Accuracy	%	Inaccuracy	%	Accuracy	%	Inaccuracy	%
1. vacant	14	93	1	7	15	100	0	0	9	60	6	40
2. perfect	9	60	6	40	15	100	0	0	6	40	9	60
3. purpose	5	33	10	67	15	100	0	0	8	53	7	47
4.private	9	60	6	40	15	100	0	0	9	60	6	40
5. frustrate	12	80	3	20	15	100	0	0	6	40	9	60
AVG % of όσ	49	65	26	35	75	100	0	0	38	51	37	49
6. occur	4	27	11	73	15	100	0	0	8	53	7	47
7. machine	13	87	2	13	15	100	0	0	5	33	10	67
8. ignore	6	40	9	60	15	100	0	0	5	33	10	67
9. antique	3	20	12	80	14	93	1	7	10	67	5	33
10. career	4	27	11	73	15	100	0	0	4	27	11	73
AVG % of σό	30	40	45	60	74	98.6	1.4	1	32	43	43	57
11. company	13	87	2	13	15	100	0	0	11	73	4	27
12. permanent	5	33	10	67	15	100	0	0	8	53	7	47
13. accident	12	80	3	20	15	100	0	0	10	67	5	33
14. separate	8	53	7	47	15	100	0	0	8	53	7	47
15. accurate	8	53	7	47	15	100	0	0	7	47	8	53
AVG% of όσσ	46	61	29	39	75	100	0	0	44	59	31	41
16. direction	13	87	2	13	15	100	0	0	8	53	7	47
17. opponent	2	13	13	87	15	100	0	0	10	67	5	33
18. subjective	9	60	6	40	15	100	0	0	13	87	2	13
19. deposit	5	33	10	67	15	100	0	0	8	53	7	47
20. ambition	13	87	2	13	15	100	0	0	7	47	8	53
AVG% of σόσ	42	56	33	44	75	100	0	0	46	61	29	39
21. interfere	9	60	6	40	15	100	0	0	3	20	12	80
22. personnel	7	47	8	53	15	100	0	0	4	27	11	73
23. entertain	7	47	8	53	15	100	0	0	7	47	8	53
24. volunteer	11	73	4	27	15	100	0	0	2	13	13	87
25. recommend	3	20	12	80	14	93	1	7	2	13	13	87
AVG% of σσό	37	49	38	51	74	98.6	1.4	1	18	24	57	76

行政院國家科學委員會補助國內專家學者出席國際學術會議報告

100 年 07 月 10 日

報告人 姓名	許維真	服務機構 及職稱	南華大學 外國語文學系 專任助理教授
會議時間 會議地點	2011 年 6 月 2 日至 6 月 4 日 Bucharest, Romania	本會核定 補助文號	NSC 99-2410-H-343-031-
會議 名稱	（中文）第十三屆國際英文語言學會議 （英文）13th Annual Conference of the Department of English (ACED)		
發表論文 題目	（中文）第二語言重音之習得：以優選理論闡釋英語重音類型 （英文）L2 Stress Acquisition: An optimality-theoretic analysis of English word stress		

一、 參加會議經過

1. 本屆會議由布加勒斯特大學(University of Bucharest) 英語學系主辦，於東歐羅馬尼亞首都布加勒斯特舉行。由於會議食宿都在固定的會場，我們可以很熟悉地找到會議室及參與各個演講及討論會。

2. 此次會議邀請到三位 invited speakers，分別發表以下論文：

(1) Balász Surányi – Research Institute for Linguistics of the Hungarian Academy of Sciences

Locative verbal particles and verb phrase structure: A view from Hungarian

(2) Anna Cardinaletti –**Ca'Foscari University, Venice**

Variation in the syntax of subjects

(3) Petra Sleeman – University of Amsterdam

Focalization in French and Italian: a root phenomenon?

第二、三位學者的報告內容及方式易讓聽眾留下深刻印象。他們的演講態度與氣勢輕鬆有趣，整個過程非常生動，言談中讓在座聽眾笑聲不斷，相當值得學習。

3. 本次會議議程內容依語言學領域劃分兩個不同的場次: 理論語言學與應用語言學。總計共約有五十~六十篇的論文，同一時間有兩篇論文發表，因此只能依興趣來決定擇一場聆聽。

4. 我於第二天下午17:00的 Theoretical Linguistics 場次發表我的論文，為當時段的第一場。當時的會議室內有將近三十位的聽眾，報告時間大約為二十分鐘，回答在場聽眾問題大約為十五分鐘。

以下是幾位學者前輩在會後對我的論文所提出的回應：

(1) 來自University of Amsterdam 的 Invited speaker *Petra Sleeman* 認為這篇文章很有趣，因為東西方文化及語言的差異給予不同的詮釋及觀點，且希望我可以將這篇論文的初稿以email方式寄給她。再者，她也針對PPT簡報中某個部份可能會造成模糊不明確的地方提出正面的建議。最後她也給予西方非英語系國家學習英語之學生的發音錯誤之範例。

(2) 來自University of Bucharest 的 Mihaela Zamfirescu 詢問有關學生對象英文能力方面的問題及探討分析英語重音之相關問題。

(3) 來自Concordia University, Montreal 的 Charles Reiss 針對PPT簡報中某個部份可能會造成不清楚的地方提出修正的建議。

二、與會心得

1. 本屆的ACED我是第一次參加，但與會的國際學者大多認為今年的ICAL辦得不錯，包括會議地點及餐點。今年只有我一位來自台灣的學者(去年也只有一至兩位中國學者)，完全不認識。但我很高興有此機會到不同的國度(東歐地區)看看並聽聽當地區的學者的演講，藉這次的會議認識不同的學術文化與生態，進一步交流及討論的機會。

2. 本屆我所發表的論文是博士論文研究第二語言習得與優選理論的延伸，從英語音節之音素議題連結至音節之重音變化。在撰寫這篇論文的過程，英語音節重音之相關議題更加深我對第二語言習得中的speech production versus perception（語言之產出與感知)間關係的興趣，同時也發現這是一個很值得再深入研究的領域。再者，在我學期授課過程中也感覺到學生對英語發音認知的缺乏與畏懼，他們的反應及表現更堅定我對此議題的執著。最後，根據參與我論文發表的學者於會議中提問及會後討論的回應多是正面的，給予我很大的鼓勵。

3. 這次的論文發表，我修正了同年在屏科大DML, NPUST發表的經驗，不僅準備PowerPoint簡報及Word講義，還包括學生的實際錄音摘要，可讓論文的發表內容可以更精確地傳達。這樣的報告呈現，其效果不錯，因為學生的錄音及書面的轉譯(transcription) 可讓聽眾感受其聽覺的效果。現場學者的反應證明了這次的論文發表準備是加分的。

三、考察參觀活動（無是項活動者省略）

四、建議

1. 此次論文發表會議整體來說辦還不錯，整個會議議程及流暢度順暢，會議地點也位於市中心，交通、用餐皆方便，且該中心的住宿品質不錯，只是在軟體設備欠佳(當時宿舍之網路系統斷線，無法上網連線)，造成資訊搜尋不便，必須到當地之 Net Café 作業及修改Powerpoint。另外，少數當地居民會英文，因此在外出時，有相當的溝通問題。但當地的捷運交通系統標語非常清楚易懂，非常值得未來提供台灣日後舉辦大型國際會議的參考與警惕。

2. 這次的會議，大多數學者都提供紙本講義，但少數學者使用電腦科技輔助，因此易造成學者照紙本講義唸稿，內容雖豐富，但份量上太多吸收不佳專心度不夠。因此，為達到最大的經濟效果，建議可於發表論文時善用電腦科技不僅可易掌握時間更能提供精簡及重點論文內容使聽眾易了解發表者之文章。

五、攜回資料名稱及內容

1. 13th ACED會議資料夾，內含所有發表論文的學者們之學校單位、e-mail及會議議程。

2. 發表論文的學者們所提供的講義。

**** 論文被接受發表之大會證明文件**

完全表頭

日期: Sat, 2 Apr 2011 12:39:38 +0300

寄件者: Annual Conference <linguistics2011@gmail.com>
收件者: 許維真 <wchsu@mail.nhu.edu.tw>

主旨: Re: Abstract Submission (ACED)

詳列附件

Dear Author,

We are happy to inform you that your abstract has been accepted for presentation at the 13th ACED.

Please confirm your participation by April 15.

The conference fee - 200 RON / 50 euro for foreign participants - will be paid upon arrival.

You will receive further details regarding venue, accommodation etc. after April 15.

Looking forward to meeting you in Bucharest,

The organizing committee

**** 發表之論文摘要**

L2 Stress Acquisition:
An optimality-theoretic analysis of English word stress

Abstract

This paper sheds some light on the issue by investigating the acquisition of English word stress by Taiwanese EFL learners. In particular, the paper aims to adopt the constraint-based Optimality Theory (Prince and Smolensky, 1993) as a linguistic model to examine stress alternations occurring in L2 acquisition. Accordingly, the researcher conducts an empirical study with three tasks that systematically investigate (1) the production only, (2) the perception only, and (3) the perception-production of English word stress produced by university students in Taiwan.

With respect to phonological structure, Chinese and English are greatly different in their prosodic structures, with Chinese as a tone language and English as a stress language. On the basis of the disparity in prosodic systems between the two languages, Taiwanese EFL learners have great pronunciation problems due to misplacement of English word stress. For example, the target word ***'oCCUR'*** is pronounced to the variant ***'Occur'***. Such a shifting primary stress to an incorrect syllable in an English word can cause great difficulty in word recognition, which impedes intelligibility. Accordingly, the study of L2 stress acquisition is of high importance in the field of second language acquisition.

Within the OT framework, the findings of this empirical research suggest that the two dominant constraints, *Alight (Left)* and *IDENT [vowel]-IO*, lead Taiwanese EFL learners to produce non-target-like stress variants. The paper further shares some significant results of this data-based study in the hope of providing some pedagogical implications of teaching English pronunciation in the area of second language acquisition.

Key words: word stress, second language acquisition, Optimality Theory

Reference:

Prince, A. and P. Smolensky (1993), *Optimality Theory: Constraint Interaction in Generative Grammar*, MS, Rutgers University: New Brunswick, and University of Colorado: Boulder.

國科會補助計畫衍生研發成果推廣資料表

日期:2012/01/31

國科會補助計畫	計畫名稱: 台灣學生對英語重音之習得:用優選理論的觀點分析英語單字重音
	計畫主持人: 許維真
	計畫編號: 99-2410-H-343-031- 學門領域: 英語教學研究

無研發成果推廣資料

99 年度專題研究計畫研究成果彙整表

計畫主持人：許維真	計畫編號：99-2410-H-343-031-
計畫名稱：台灣學生對英語重音之習得:用優選理論的觀點分析英語單字重音	

成果項目			量化			單位	備註（質化說明：如數個計畫共同成果、成果列為該期刊之封面故事...等）
			實際已達成數（被接受或已發表）	預期總達成數(含實際已達成數)	本計畫實際貢獻百分比		
國內	論文著作	期刊論文	0	0	100%	篇	
		研究報告/技術報告	0	0	100%		
		研討會論文	1	0	100%		Hsu, W.C. (2011). Second Language Phonology: Constraint variation in word stress. Proceedings of 2011 International Conference on ELT Technological Industry. DML, NPUST. 75-86.
		專書	0	0	100%		
	專利	申請中件數	0	0	100%	件	
		已獲得件數	0	0	100%		
	技術移轉	件數	0	0	100%	件	
		權利金	0	0	100%	千元	
	參與計畫人力（本國籍）	碩士生	0	0	100%	人次	
		博士生	0	0	100%		
		博士後研究員	0	0	100%		
		專任助理	0	0	100%		
國外	論文著作	期刊論文	0	0	100%	篇	
		研究報告/技術報告	0	0	100%		
		研討會論文	1	0	100%		The 13th Annual Conference of the English Department (ACED), University of Bucharest, 02-04 June 2011

							(Abstract only)
		專書	0	0	100%	章/本	
	專利	申請中件數	0	0	100%	件	
		已獲得件數	0	0	100%		
	技術移轉	件數	0	0	100%	件	
		權利金	0	0	100%	千元	
	參與計畫人力（外國籍）	碩士生	0	0	100%	人次	
		博士生	0	0	100%		
		博士後研究員	0	0	100%		
		專任助理	0	0	100%		
其他成果 (無法以量化表達之成果如辦理學術活動、獲得獎項、重要國際合作、研究成果國際影響力及其他協助產業技術發展之具體效益事項等，請以文字敘述填列。)		無					

	成果項目	量化	名稱或內容性質簡述
科教處計畫加填項目	測驗工具(含質性與量性)	0	
	課程/模組	0	
	電腦及網路系統或工具	0	
	教材	0	
	舉辦之活動/競賽	0	
	研討會/工作坊	0	
	電子報、網站	0	
	計畫成果推廣之參與（閱聽）人數	0	

國科會補助專題研究計畫成果報告自評表

請就研究內容與原計畫相符程度、達成預期目標情況、研究成果之學術或應用價值（簡要敘述成果所代表之意義、價值、影響或進一步發展之可能性）、是否適合在學術期刊發表或申請專利、主要發現或其他有關價值等，作一綜合評估。

1. 請就研究內容與原計畫相符程度、達成預期目標情況作一綜合評估

■達成目標

□未達成目標（請說明，以 100 字為限）

□實驗失敗

□因故實驗中斷

□其他原因

說明：

2. 研究成果在學術期刊發表或申請專利等情形：

論文：□已發表 ■未發表之文稿 □撰寫中 □無

專利：□已獲得 □申請中 ■無

技轉：□已技轉 □洽談中 ■無

其他：(以 100 字為限)

3. 請依學術成就、技術創新、社會影響等方面，評估研究成果之學術或應用價值（簡要敘述成果所代表之意義、價值、影響或進一步發展之可能性）(以 500 字為限)

(1) 研究成果之意義

此計劃的研究成果的意義有兩點：（一）由於中英文的聲韻結構差異甚大，因此透過兩所大學之 30 名大一學生進行三個測驗來檢視台灣學生是否能掌握英語單字重音位置及其重音變體現象是如何產生。(二) 另外，以優選理論的角度來分析從測驗中所得到之重音變體語料，並探討英語重音的感知/產出 (perception and production) 關係過程。

(2) 研究成果之價值

英語單字的音節有輕重之分，所以重音在英語聲韻上是相當重要的元素。在英語學習上，因此不難預期台灣學生會遭遇到不少有關重音音節位置之困難度。而此研究成果明確地指出兩大因素會影響學生標錯英語單字的重音音節位置，這不僅可以作為台灣英文教師發音教學上(尤其是在重音練習上)的參考與規劃。同理，其他華人區或他國母語為聲調語言 (tone language) 在英語教學上，皆可適用。

(3) 研究成果之影響

現在的英語發音教學上，英文教師多著重於子音、母音發音之學習與練習，但實際上，重音的重要性遠大於單獨的子音或母音音素。因此本計劃的研究成果是希望會影響台灣英文教師於課堂中多講解英語重音層次的不同(如輕重音之音節)、增加英語重音之練習，並認同重音音素的重要性，這一定會助於學生在英語發音學習上。

(4) 研究成果進一步發展之可能性

英文是重音語言（stress language)，因此在英文單字裡會有弱音、次重音及主重音之區別。而英文所謂的重音移動是指單字的重音可能會隨著附加的字綴(字首或字根)而有所變化、移動，而對於此現象 – 英文單字重音的移動規律 – 則是根據此次研究計劃進一步發展之可能性，為探討音韻學及構詞學之關係。