Chang Gung Journal of
Humanities and Social Sciences
8:2 (October 2015), 347-379

Effects of the Revelational Phonics Approach on Chinese L1 EFL Beginners' Knowledge of the English Alphabetic Principle: Further Evidence from 'Whole Word', 'Single Letter-Sound', and 'Digraph' Reading

Yu-Lin Cheng*

Abstract

Effects of two phonics courses on Chinese L1 EFL beginner readers' knowledge of the English alphabetic principle were compared. Two groups of children with matched baselines received aphonics course designed with the gist of either the existing phonics practice within Taiwan's Primary English education (the EPP) or the Revelational Phonics Approach (the RPA). Fundamental differences set the two courses apart: (1) the EPP *defers* the teaching of digraph rules *until* single letter-sound rules have *all* been introduced via the 'one English letter to one sound' indoctrination, while the RPA proposes that whenever a single letter-sound rule is taught, digraph rules headed by the letter are also immediately introduced; (2) the EPP follows the teaching steps of segmentation, conversion, and phoneme blending for word reading, while the RPA follows the teaching steps of digraph identification, segmentation, conversion, and phoneme blending for word reading; and (3) the EPP employs 'encoding' activities that

* Associate Professor, Department of English, National Dong Hwa University, E-mail: ylcheng@mail.ndhu.edu.tw. The author would like to thank the editors and three anonymous reviewers for their valuable comments and suggestions.

tax one's orthographic knowledge, while the RPA employs 'decoding' activities that tax one's knowledge of the alphabetic principle. Results show that the RPA group outperformed the EPP group across the board: on 'whole word', 'single letter-sound', and 'digraph' reading.

Keywords: Chinese L1 EFL, Phonics, English Alphabetic Principle, Grapheme-phoneme Conversion

1. INTRODUCTION

English-as-a-Native-Language (ENL) government-commissioned reviews on early literacy research (e.g., UK: Rose, 2006; US: Ehri, Nunes, Stahl, & Willows, 2001) have reached two important conclusions relating to knowledge of the English alphabetic principle when learning to read English. First, a good foundation in the alphabetic principle (i.e., which grapheme typically corresponds to which phoneme) together with a set of high-frequency irregular words, is the means to word comprehension before the ENL beginner reader develops the lexical route to reading (Coltheart, 1980; Ehri, 1995). When a printed word becomes known well enough, it becomes a sight word (Ehri, 2005) and is recognised via the lexical route where a direct access to the word's pronunciation and meaning at a mere glance (LaBerge & Samuels, 1974). As the number of words recognised via the lexical route increases, fluent reading is achieved. However, when encountering a printed word that is unknown, the reader still processes it via grapheme-phoneme conversion.

The other important conclusion is that the alphabetic principle is most effectively taught 'explicitly and systematically' rather than 'implicitly' or 'incidentally' (Ehri et al., 2001). Explicit and systematic phonics instruction is defined as one that teaches the alphabetic principle in a clearly defined, incremental sequence to enable the beginner reader to first segment an English word into its constituent graphemes, then convert the graphemes into their corresponding phonemes, and finally synthesise phonemes to sound out the word (Ehri et al., 2001).

Knowledge of the alphabetic principle is typically measured via word reading (Ehri et al., 2001; Rose, 2006). Importantly, in recent years, a good foundation in the alphabetic principle has been reported to facilitate the meaning acquisition of printed words (Rosenthal & Ehri, 2008) and spelling development (Cheng, 2014; Levin & Aram, 2013). English-as-a-Foreign Language (EFL) learners have also benefited from explicit and systematic phonics (e.g., Nishanimut, Johnston, Joshi, Thomas, & Padakannaya, 2013).

(1) Existing Phonics Practice within Taiwan's Primary English Education (the EPP)

Since 2001, the teaching of the English alphabetic principle has been included in Taiwan's Grade 1-9 Curriculum Guidelines for Primary English. Our beginner readers are introduced to the 26 letters (shapes and names) and single letter-sound rules (e.g., *a*-[æ]) between Grade 3 Semester 1 and Grade 4 Semester 2, consonant digraph rules (e.g., *th*-[θ]) in Grade 4 Semester 2, split vowel digraph rules (e.g., *a_e*-[eɪ]) in Grade 5 Semester 1, and consonant blends (e.g., *bl*-[bl]) and vowel digraph rules (e.g., *ai*-[eɪ]) between Grade 5 Semester 2 and Grade 6 Semester 2.

Single letter-sound rules are introduced via a 'one English letter to one sound' concept, which is reinforced during the first four semesters (approximately 2 years) of phonics instruction. Its temporary goal is to enable Taiwan's EFL beginner readers to produce the correct letter sound (e.g., [æ]) when the target letter (e.g., *a*) appears in any given printed word. The teaching steps, based on the observation of teaching demonstrations by a representative sample of teachers (Cheng, 2011) and also demonstrated in numerous phonics workshops, are as below. Taking the teaching steps of the *a*-[æ] rule as an example:

Step 1: Teach the spoken form of  [ænt].
Step 2: Point to *a* and model the sound [eɪ].
Step 3: Point to *a*, then *a* in *ant*, and model the sounds [eɪ], [æ].
Step 4: Point to *a*, then *a* in *ant*, finally the whole word *ant*, and model the sounds [eɪ], [æ], [ænt].

However, a close look at this teaching method reveals that two sounds [eɪ] (letter name) and [æ] (letter sound) are simultaneously used to represent *a*. Without being explicitly taught that *letter sounds* rather than *letter names* are used when word reading, it is doubtful that our beginner readers would even be able to achieve the temporary goal (i.e., producing [æ] for *a* when reading aloud a printed word containing the letter *a*). The inability to use *letter sounds* (rather than *letter names*) when word reading is termed 'letter name letter sound confusion', a common problem (e.g., Harrison & Clyde, 2005; Rose, 2006). Since word reading depends on the successful conversion of letters

to their corresponding *sounds* (rather than *names*), this inability/confusion can severely interfere with word reading (Light & McNaughton, 2012). As observed in Cheng's (2011) study, when primary English teachers are unaware of the existence of letter name letter sound confusion, their teaching makes no effort to prevent it from happening. It is therefore not unfathomable that our Chinese L1 EFL beginner readers, without being explicitly taught that *letter sounds* are used when word reading, are susceptible to the letter name letter sound confusion.

The human brain tends to draw from related, already acquired, skills when learning a new skill (Willis, 2006). Following this logic it can be clearly understood that our Chinese L1 EFL beginners may unconsciously misapply their knowledge of Chinese orthography when learning to read English. For example, beginners may naturally equate a Chinese character to an English letter (as both represent the smallest sound unit to make a word) and therefore assume that, like a Chinese character whose pronunciation is constant with a relatively low percentage of exceptions ("國語一字多音審訂表"，民 101), an English letter should also correspond to one pronunciation. There is empirical evidence that the learning of English orthography can be negatively influenced by the knowledge of one's L1 orthography (i.e., Chinese). Wang, Koda, and Perfetti (2003) found that their non-alphabetic L1 adult intermediate to advanced EFL learners' English word reading was influenced by the knowledge of their L1 orthography (i.e., Chinese). The authors suggested that, as the non-alphabetic L1 transfer (influence or interference) may gradually disappear as the learners' English proficiency improves, beginner readers are most susceptible to this effect. The pedagogical implication should not be ignored.

However, even if our beginner readers were not affected by letter name letter sound confusion, there remains a central problem in the existing phonics practice within Taiwan's Primary English Education: the *indoctrination* of 'one English letter to one sound' in combination with the *deferral* of teaching digraph rules.[1] First, the English language has a deep orthography: there is *not* a one-to-one letter-sound translation (Frost, Katz, & Bentin, 1987; Katz & Frost, 1992). The facts about the English

[1] Teaching a digraph rule means teaching both the digraph and its corresponding sound(s) (e.g., *th*-[θ], [ð]) for word reading.

orthography are: (1) any English letter can correspond to a few sounds, including no sound[2] and indeterminable;[3] and (2) any sound can correspond to a number of letters, from one to many.[4] This deeporthography is shown to be accountable for the much slower rate of development in word reading for ENL beginner readers as compared to that of children from shallow orthographies (Seymour, Aro, & Erskine, 2003). The recommended solution, as already mentioned, is to teach explicit and systematic phonics (Ehri et al., 2001; Rose, 2006), but it does not suggest teaching rules via a 'one English letter to one sound' indoctrination. In other words, the indoctrination of 'one English letter to one sound' as practised within Taiwan's Primary English Education is not only misleading but also not research-informed.

Secondly, the *deferral* of teaching digraph rules until single letter-sound rules have *all* been introduced' practice is also *not* research-informed. In the one available study (Cheng, 2014) where this practice was compared with one that differs, evidence was in favour of the alternative. In addition, neither government publications on phonics nor phonic pedagogy books have ever suggested this practice. On the contrary, an interspersion of single letter-sound rules with digraphs is recommended (e.g., the UK government publication) *Letters and Sounds* (2007) and Johnson and Watson (2007).[5] Perhaps, logical reasoning alone suffices to reject the '*deferral* of digraph rule teaching until single letter-sound rules have *all* been introduced' practice. Digraphic words are ubiquitous, as *each and every one* of the 26 letters *can* be formed into a digraph. Digraphic words make their first appearance in book one unit oneof many government-approved mandatory Primary English textbook series (e.g., *Follow Me*, 2014, *Hello Kids*, 2014; *Story.com*, 2014), and such words continue to appear in every unit throughout the series. More importantly, the sound of a digraph is *hardly ever* the

---

2 Taking the letter *b* as an example, it is not pronounced in words such as *comb* and *tomb*.

3 Taking the letter *a* as an example, it is indeterminable which sound the letter *a* corresponds to in words such as *name*, *tail*, *fair*, *car*, *autumn*, *day*, *jaw*, *meat*, and *road*.

4 Taking the sound [aɪ] as an example, it can be represented by the following letters: *i*, *ie*, *eye*, *igh*, *y* as in words such as *kind*, *tie*, *eye*, *sigh*, and *my*.

5 In both *Letters and Sounds* (2007) and Johnson and Watson (2007), the recommended sequence of phonics rules teaching is alternating between single letter-sound rules (consonant and vowel letters) and digraphs (consonant and vowel digraphs).

sum of two individual letter sounds, e.g., *aw* is pronounced [ɔ], not *a*-[æ]+*w*-[w]; *ck* is pronounced [k], not *c*-[k]+*k*-[k]. Unfortunately, the longer the deferral of digraph rule teaching continues, the longer our beginner readers will have to endure failure at every attempt at sounding out digraphic words. One can appreciate that the beginner readers' confusion will deepen with each unexplained correction of their mispronunciation. Any teaching that creates unnecessary anxiety for learners discourages learning (Krashen, 1982; Willis, 2006), and this alone suffices to initiate an overhaul of the existing practice.

To rehash, the existing phonics practice within Taiwan's Primary English Education (hereafter as EPP) has two major problems. The first (minor) problem is that the teaching makes no effort to prevent our beginner readers from experiencing letter name letter sound confusion. The second (central) problem is the *indoctrination* of one English letter to one sound in combination with the *deferral* of the teaching of digraph rules. This toxic combination shoehorns our beginner readers into mispronouncing the ubiquitous digraphic words, causing confusion and anxiety.

(2) The Revelational Phonics Approach

The Revelational Phonics Approach (hereafter as RPA) was first proposed by Cheng (2014) to address the two aforementioned legacy problems within the EPP.

As already mentioned, letter name letter sound confusion is a well-documented problem that prevents successful word sounding. To avert the problem, research has suggested that the teaching of *letter names* should be: (1) deferred until beginner readers have learnt to associate the 42 English sounds to corresponding letter shapes (e.g., Light & McNaughton, 2012); (2) taught when beginner readers are starting to learn digraphs (*Letters and Sounds*, 2007); (3) taught even before *letter sounds* are introduced (Johnson & Watson, 2007); and (4) taught at the same time as *letter sounds* (Share, 2004), but an explicit, easy-to-understand account explaining that *letter sounds* rather than *letter names* must be utilised (Cheng, 2012). In other words, at the current juncture, consensus on the most effective way to circumvent the 'letter name letter sound' confusion awaits further investigation.

Unlike the EPP, the RPA makes a concerted effort to prevent the occurrence of letter name letter sound confusion. The RPA teaches beginner readers both *letter names*

and *letter sounds*, but ensures that they will only use *letter sounds* when word reading. Details of how the RPA achieves this goal are presented in 2(3)(b) and Appendix 4 of the present study.

The RPA also differs from the EPP in that there is neither the *indoctrination* of 'one English letter to one sound' concept nor the *deferral* of digraph rule teaching. As already mentioned, the English language has a deep orthography: there is *not* a one-to-one letter-sound translation. In contrast to the EPP, when a single letter-sound rule (e.g., *a*-[æ]) is introduced in the RPA, digraph rules headed by the letter (e.g., *ai*, *ar*, *aw*) and their corresponding sounds ([eɪ], [ɑr], [ɔ]) are also *immediately* introduced. Beginner readers learn that the letter *a* corresponds to the sound [æ] 'only' when it is *not* immediately followed by *i*, *r*, *w*, etc., and that when *a* is immediately followed by *i*, *r*, *w*, etc. the sound of *ai* is [eɪ], *ar*-[ɑr], *aw*-[ɔ], etc. Through this full-disclosure design, beginner readers are not misled into thinking that there is a 'one English letter to one sound' translation (as indoctrinated by the EPP). They are taught to first search for digraphs when encountering an unknown printed word (e.g., *barter*), convert the identified digraphs (*ar*, *er*) and the remaining individual letters (*b*, *t*) into phonemes (sounds), and finally blend the converted phonemes to sound out the word. Details of how the RPA achieves this goal are presented in 2(3)(b)and Appendix 4 of the present study.

(3) Preliminary Evidence Supporting the RPA

Preliminary evidence in favour of the RPA over the EPP was first reported in Cheng (2014). Two groups of Chinese L1 EFL beginners were randomly assigned to receive an additional phonics course, designed with the essence of either the RPA or the EPP. The finding was that on completion of their respective training, the RPA group's knowledge of the English alphabetic principle was more advanced: the RPA group significantly outperformed the EPP group in whole word reading.

Though such finding is encouraging news, it cannot be readily accepted as definitive proof that the RPA is more effective than the EPP. This is because while the two groups compared had matched baselines (i.e., access to pre- and extra-curricular English tuition, and knowledge of the English alphabetic principle), it was not mentioned whether criteria such as 'enthusiasm for English learning' and 'English letter

recognition' were controlled for prior to assigning children into groups. 'Enthusiasm' (Marilou, 2008) and 'English letter recognition' (Dehaene, 2009) are factors that can skew the result. For this reason, one cannot accredit Cheng's (2014) finding as one that is entirely due to the difference in the two compared approaches. The definitive proof would be when the RPA is found to be more effective than the EPP in enhancing beginner readers' knowledge of the English alphabetic principle, when 'enthusiasm for English learning' and 'English letter recognition' are also controlled for.

(4) Purpose of the Present Study

The purpose of the present study is to examine whether the RPA, relative to the EPP, better enhance Chinese L1 EFL beginner readers' knowledge of the English alphabetic principle. To enable a fair and square comparison, so that the finding is not tainted by spuriousness (see Stanovich, 2010), a matched-subjects design with the following controls will be implemented: (1) access to pre- and extra-curricular English tuition; (2) 'enthusiasm for English learning' and 'English letter recognition'; and (3) knowledge of the English alphabetic principle. The two groups will then be: (1) assigned to receive a short, additional phonics course designed with the gist of either the EPP or the RPA; and (2) taught the same phonics rules, and tested, by the same trainee teacher(s). If the EPP's assumption that the teaching of digraph rules should be *deferred* until single letter-sound rules have all been introduced through the 'one English letter to one sound' *indoctrination* is sustained, then the group taught with the gist of the EPP will demonstrate a more advanced knowledge of the English alphabetic principle post-intervention relative to the RPA group. On the other hand, if the EPP's assumption is unsubstantiated, then the group taught with the gist of the RPA will demonstrate a more advanced knowledge of the English alphabetic principle post-intervention relative to the EPP group.

Knowledge of the English alphabetic principle is typically measured via a word reading test (Ehri et al., 2001; Rose, 2006), and scoring is conventionally calculated on the number of correctly sounded 'words'. This convention is easily appreciated because the meaning of a word could be changed by the substitution of a mere phoneme. However, such a strict all-or-none criterion may result in an underestimation of a child's knowledge of the alphabetic principle. To avoid this pitfall, in the present study, two

raw score sets (word and rule-based) will be analysed to better represent participants' knowledge of the English alphabetic principle.

It is important to note that the phonics rules (25 single letter-sound and 22 digraph rules) selected for the present study represent three quarters (¾) of the total phonics rules included within Taiwan's 4-year Primary English, and only a third (⅓) of those included within a complete RPA programme.[6] While this selection is not exhaustive, both single letter-sound and digraph rules are included. It is therefore sufficient for the purpose of the present study.

2. METHOD

(1) Participant Selection

Chinese L1 EFL children from low socio-economic status families who had just commenced the mandatory Primary English (i.e., Grade 3 Semester 1) were targeted. This control was to minimise possible tainting due to access to pre- and extra-curricular English tuition. Forty-four Grade 3 pupils from the same primary school in suburban Hualien County, Taiwan, were initially qualified. The children confirmed that they had no English learning experience prior to the commencement of mandatory Primary English, and did not attend any after-school English tuition. Two additional criteria, 'English letter recognition and enthusiasm for English learning' and 'knowledge of the English alphabetic principle' were imposed. This was to ensure that the selected pupils, who would later be randomly assigned to receive a short, additional phonics course designed with the gist of either the EPP or the RPA, would form two matched groups: the EPP group and the RPA group.

(a) First-line screening: English Letter Recognition and Enthusiasm for English Learning

Letter recognitionis a prerequisite to phonics learning (Dehaene, 2009). English

[6] In addition to the 5 categories of phonics rules already included within the 4-year Primary English, the complete RPA programme (for more details see 鄭育霖等, 2012) includes two additional categories: doubled letters (e.g., *bb*, *ee*) and special groups (e.g., *chie* as in *chief*, *fie* as in *field*). The complete RPA programme also introduces more vowel and consonant digraphs.

letter recognition, at its simplest, is the ability to identify an English letter in its uppercase and lowercase forms. Pupils who cannot recognise the 26 English letters are not ready for phonics learning. The school English test, designed by the primary school's only English teacher, was intended to measure and reflect pupils' English letter recognition. The test comprised of matching simple greeting sentences with corresponding pictures, pairing lowercase letters with corresponding uppercase letters, and filling in the missing letters of the alphabet.

A high qualifying score of 90 was imposed to ensure that the qualified pupils, who would later be randomly assigned into two groups, would not skew the result due to one group containing participants who clearly lacked this prerequisite for phonics learning (i.e., letter recognition). The qualifying score resulted in the elimination of 24 pupils.

An additional safeguard was taken to ensure that the qualified pupils, who would later be randomly assigned into two groups, would not skew the result due to one group containing participants who clearly lacked enthusiasm for English learning. Enthusiasm, widely assumed to play a role in successful learning, can be conveyed through one's behaviour, verbally or nonverbally (Marilou, 2008). While no standardised test to measure enthusiasm for learning is currently available, teachers have been found to be reliable and valid informants (Levin and Aram, 2013). A description of an enthusiastic learner was provided to the school's English teacher with the remaining 20 potential participants' names, and the teacher was instructed to label each pupil as 'enthusiastic about learning English', 'not sure', or 'unenthusiastic about learning English'. All 20 potential participants were verified to be 'enthusiastic about learning English'.

After successfully meeting the first-line screening criteria, the 20 potential participants progressed to the second-line screening. It is important to note that any precautionary measures taken during participation selection had the sole purpose of ensuring a fair and square comparison.

(b) Second-line Screening: Knowledge of the English Alphabetic Principle

Knowledge of the English alphabetic principle is typically measured via word reading (or sounding) (US: Ehri et al., 2001; UK: Rose, 2006). For this reason, the present study also employed a word reading test.

Word reading tests, standardised (e.g., Diagnostic Test of Word Reading Processes, 2012; Test of Word Reading Efficiency-2, 2012) or not (e.g., the UK Phonics Screening

Checkpractice sheet, 2012), now typically employ nonwordsto measure letter-sound knowledge. Nonwords are essential for validly assessing ENL readers' word reading (i.e., sounding) via the phonological route (i.e., grapheme-phoneme conversion). Nonword reading rules out any possibility of sounding via the lexical route (i.e., direct access to both pronunciation and meaning due to having learnt the words, thus able to sidestep grapheme-phoneme conversion). Where tests do not include nonwords (e.g., the Burt reading test, 1974), the word items clearly increase in difficulty (from high-frequency to low-frequency) to ensure that performance reflects the child's knowledge of the alphabetic principle at its best, minimising the possibility of correct sounding due to having learnt the words (i.e., 'known' words).

(i) Word Reading Test of the Present Study

Despite the value of nonwords, disapproval of their use has continued to be voiced, particularly by ENL teachers and pedagogical researchers. For example, only recently, disapproval was voiced in loud volume over the inclusion of nonwords in the statutory UK Year 1 phonics screening checklist. Sixty-four percent of respondents who participated in the Consultation (among whom were literacy teachers and pedagogical researchers) were against using nonwords.

In the word reading test of the present study, nonwords were excluded to reduce rejection from a preconception by the potential readers of the current article, and refusal from school administration and/or the pupils' parents. Two cautionary measures were taken to ensure that the validity of the current test was not compromised. First, all words included in the test were low-frequency words with a mean frequency value of 39.88 per million words, from SUBTLEXus (Brysbaert and New, 2009). The potential participants of the present study were practically total beginners (having only just commenced their Primary English with no English learning experience prior to the commencement of mandatory Primary English, and not attending any after-school English tuition). The possibility of such beginners knowing these low-frequency word items (well enough to enable direct access to both pronunciation and meaning, sidestepping grapheme-phoneme conversion) should be slim. Therefore, although no nonwords were used in the test, the low-frequency real words should act in effect as nonwords to the potential participants. To further add belt and braces to the validity of the test (that is, the results reflect knowledge of the English alphabetic principle), the

potential participants would be asked to provide the meaning of every word they sounded out, and 'known' words would be excluded from data analysis. This is because the correct sounding of a 'known' word could be due to prior knowledge of the word rather than via grapheme-phoneme conversion.

The word reading test consisted of 26 real words, within which 47 phonics rules were embedded (see Appendix 1 for the list with target rules and frequency values). These rules were those included in the government-approved course book series for Primary English:

- 25 single letter-sound rules: e.g., *a*-[æ],[7] *b*-[b], *c*-[k], excluding *q*[8]
- 22 digraph rules: *qu*-[kw], *ai*-[eɪ], *ar*-[ɑr], *au*-[ɔ], *aw*-[ɔ], *ay*-[eɪ], *ea*-[i] and [ɛ], *ew*-[ju], *er*-[ɚ], *ir*-[ɜ], *oa*-[o], *oi*-[ɔɪ], *oo*-[u], *ou*-[aʊ], *ow*-[aʊ], *or*-[ɚ] and [ɔr], *oy*-[ɔɪ], *ue*-[u], *ur*-[ɜ], *ui*-[u]

(ii) Test Administration, Scoring, and Result

Two trainee teachers collaborated in administering the test to the 20 potential participants. One of the trainee teachers (the examiner) was responsible for administering the test, while the other assisted with maintaining order in the classroom. Pupils took the test individually. The trainee teachers were in the final stage of completing their bachelor's degree in English, and each had a TOEIC (the Test of English for International Communication) score of above 860 (equal to C2 level in the Common European Framework of Reference for Languages). The examiner was instructed not to suggest corrections, prompt, or rush through the test. The test was stopped as soon as the pupil confirmed completion. Pupils were then asked to provide

---

7 The symbols in brackets are IPA symbols, and they are only used to represent the sounds that pupils were taught and tested. During the actual teaching, these symbols were never shown to the pupils.

8 In teaching letter-sound rules, the single letter *q* is used to represent the [kw] sound within Taiwan's Primary English textbook series. This however differs from the conventional phonics instruction for ENL children where the digraph *qu* rather than *q* is used to represent the [kw] sound. In the present study, pupils were taught *qu* rather than *q* because where there is *q* in an English word it is almost always immediately followed by *u*.

the meaning of every word they sounded out.

Consistent with recent research (Rieben, Ntamakiliro, Gonthier, and Fayol, 2005; Ouellette and Senechal, 2008), two types of score per pupil were calculated for the current word reading test: 'whole word-based' score (for correctly sounded *unknown* 'words') and 'rule-based' score (for correctly sounded 'target rules' within *unknown* words). The 'rule-based' score was the sum of scores for both correctly sounded 'single letter-sound rule' and 'digraph rule' within *unknown* words. Note that when a word (e.g., *quack*) that contained rules outside the scope of the target rules was sounded and confirmed 'unknown', a point was awarded when all the target rules embedded in the word were correctly sounded. Taking the word *quack*, which contains 3 rules (*qu*-[kw], *a*-[æ], *ck*-[k]), as an example, as the rule (*ck*-[k]) was outside the scope of the target rules, a point was awarded to the word, as long as the two target rules (*qu*-[kw], *a*-[æ]) were correctly sounded and the word was confirmed 'unknown'. Also note that the same rule was awarded a point *once*. Taking the rule *s*-[s], which appears in four words, *saint*, *suit*, *sour*, and *sum*, as an example, the *s*-[s] rule was awarded a point only no matter how many times the *s*-[s] rule was correctly sounded.

Word reading test results showed that the 20 potential participants could barely sound out any words (correctly sounded word: 0.75, *SD* = 0.44; correctly sounded 'unknown' word: 0.00) or any target rules embedded within an 'unknown' word (0.00), indicating an absence of knowledge of the English alphabetic principle.

(2) Participant Grouping

At this juncture, the screening results confirmed that the 20 potential participants had similar baselines, and they were randomly assigned into two equal groups: the EPP group and the RPA group (school test score mean: EPP group = 92.90, *SD* = 2.81, RPA group = 92.50, *SD* = 2.51, $t(18) = 0.34$, $p = .65$; rule-based score mean: EPP group = 0.00, RPA group = 0.00; whole word-based score mean: EPP group = 0.00, RPA group = 0.00).

(3) The Additional Phonics Training

The two groups were each to receive a short, additional phonics course designed with the gist of either the EPP or the RPA. Each phonics course contained seven

40-minute phonics lessons. The goal was to teach the aforementioned phonics rules. The rules were embedded into 25 practice word items (see Appendix 2), which were different from those used in the word reading test.

The two trainee teachers, who collaborated in administering the word reading test, were invited to teach both groups in joint effort. The 7 sessions were conducted at the primary school and completed within 4 weeks. The post-phonics word reading test was administered a week after completion of the course. To prevent the trainee teachers from applying both approaches to teaching the EPP group, the EPP group was taught first. This does mean that compared with the EPP group, the RPA group would have had 4 more weeks of school English (8 lessons in total) when they started their phonics-specific course. It is however unlikely that the 4 weeks of school English would have boosted the RPA group's knowledge of the English alphabetic principle to the extent where it could affect the results of the present study. This is because the majority, if not all, of the letter-sound rules introduced in the phonics course were *outside* the scope of phonics schedule within the 4-year Primary English for Grade 3 Semester 1. In other words, 4 more weeks of school English would not give the RPA group any 'phonics advantage' over the EPP group.

(a) The Phonics Course Designed with the Gist of the EPP

The EPP group were taught an additional phonics course in which the target rules were introduced using material with a design identical to that already described in 1(1). Digraph rules were *deferred* until the single letter-sound rules had all been taught. The schedule for the EPP sessions is summarised in Table 1. The teaching of the single letter-sound rules, the digraph rules, and activities is summarised in Appendix 3.

(b) The Phonics Course Designed with the Gist of the RPA

The RPA group were also taught an additional phonics course, consisting of the same target rules and practice words. As already mentioned in 1(1) and 1(2), the RPA makes a concerted effort to prevent the occurrence of letter name letter sound confusion. A concerted effort was made to ensure that pupils understood that *letter sounds* rather than *letter names*, and digraph rules were introduced *alongside* single letter-sound rules. The schedule for the RPA sessions is summarised in Table 2. The teaching of the single letter-sound rules, the digraph rules, and activities is summarised in Appendix 4.

Table 1：EPP Teaching Schedule

Session	Target rule
1	*a*-[æ], *b*-[b], *c*-[k], *d*-[d], *e*-[ɛ], f-[f], *g*-[ɡ], *h*-[h]
2	*i*-[ɪ], *j*-[dʒ], *k*-[k], *l*-[l], *m*-[m], *n*-[n], *o*-[ɑ], *p*-[p]
3	*r*-[r], *s*-[s], *t*-[t], *u*-[ʌ], *v*-[v], *w*-[w], *x*-[ks], *y*-[j], *z*-[z]
4	*qu*-[kw], *ai*-[eɪ], *ay*-[eɪ], *ea*-[i], *oa*-[o], *ow*-[aʊ], *ou*-[aʊ]
5	*oo*-[u], *oi*-[ɔɪ], *oy*-[ɔɪ], *ir*-[ɝ], *ur*-[ɝ], *er*-[ɚ], *or*-[ɚ]
6	*ar*-[ɑr], *au*-[ɔ], *aw*-[ɔ], *ea*-[ɛ], *ew*-[ju], *or*-[ɔr], *ue*-[u], *ui*-[u]

3. RESULTS

Both the EPP and RPA group took the word reading test again a week after completion of their respective phonics training. The test administration and scoring system were identical to those already presented in 2(1)(b)(ii). Related t tests were performed to observe the respective groups' improvementon the English alphabetic principle. Both the EPP and RPA group made significant progress in the post-intervention test ('rule-based' score mean: EPP group = 17.40, *SD* = 4.74, $t(9) = 11.60$, RPA group = 33.30, *SD* = 3.77, $t(9) = 27.91$; 'whole word-based' score mean: EPP group = 7.70, *SD* = 1.89, $t(9) = 12.89$, RPA group = 16.40, *SD* = 2.12; $t(9) = 24.48$; all *p*s < .001).

Two sample t tests were performed to compare the two groups' post-intervention 'whole word-based' and 'rule-based' reading scores. Significant between-group differences in 'whole word-based' score ($t(18) = 9.69$, $p < .001$, Cohen's $d = 4.33$) and 'rule-based' score ($t(18) = 8.30$, $p < .001$, Cohen's $d = 3.71$) were observed, indicating that the RPA group had a more advanced knowledge of the English alphabetic principle than the EPP group post-intervention. Two sample t tests were also performed to compare the two groups' post-intervention 'single letter sound rule' and 'digraph rule' scores. Significant between-group differences in 'single letter sound rule' score (EPP group = 10.80, *SD* = 2.70, RPA group = 19.40, *SD* = 1.84, $t(18) = 8.33$, $p < .001$, Cohen's $d = 3.72$) and 'digraph rule' score (EPP group = 6.60, *SD* = 2.27, RPA group =

Table 2：RPA Teaching Schedule

Session	Teaching Point
1	● Review letter shapes and *letter names*. ● Ensure pupils are aware that an English printed word is usually formed by a group of letters, and that *letter sounds* rather than *letter names* are used when word reading. ● Demonstrate the correct approach to sounding out a word as converting the letters into *letter sounds* and combining those sounds from left to right to read aloud as *one unit*.
2	The sound [æ] for *a* and *a*-headed digraph rules: *ai*-[eɪ], *ar*-[ɑr], *au*-[ɔ], *aw*-[ɔ], *ay*-[eɪ]. The sound [ɪ] for *i* and an *i*-headed digraph rule: *ir*-[ɜ].
3	The sound [ɛ] for *e* and *e*-headed digraph rules: *ea*-[i], [ɛ], *ew*-[ju]. The sound [ʌ] for *u*, and *u*-headed digraph rules: *ue*-[u], *ur*-[ɜ], *ui*-[u].
4	The sound [ɑ] for *o* and *o*-headed digraph rules: *oa*-[o], *oi*-[ɔɪ], *oy*-[ɔɪ], *oo*-[u], *ou*-[aʊ], *ow*-[aʊ], *or*-[ɔr] and [ə].
5	*b*-[b], *c*-[k], *d*-[d], *f*-[f], *g*-[g], *h*-[h], *j*-[ʤ], *k*-[k], *l*-[l], *m*-[m], *n*-[n]
6	*p*-[p], *qu*-[kw], *r*-[r], *s*-[s], *t*-[t], *v*-[v], *w*-[w], *x*-[ks], *y*-[j], *z*-[z]

13.90, *SD* = 2.28, *t*(18) = 7.17, *p*< .001, Cohen's *d* = 3.21) were observed. The findings clearly show that, relative to the EPP group, the RPA group read more 'single letter-sound' and 'digraph' rules correctly.

4. DISCUSSION

The present study compared effects of two phonics courses on teaching Chinese L1 EFL beginner readers' knowledge of the English alphabetic principle. To avoid spuriousness, as it might have in part tainted Cheng's 2014 finding, the present study employed a matched-subjects design including the following controls: 'access to pre- and extra-curricular English tuition', 'English letter recognition' and 'enthusiasm for English learning', and 'knowledge of the English alphabetic principle'. The two matched groups (the EPP and RPA group) were taught 47 phonics rules in a 7-session

phonics course designed with the gist of either the existing phonics practice within Taiwan's Primary English education (the EPP) or the Revelational Phonics Approach (the RPA).

Following the convention (Ehri et al., 2001; Rose, 2006), the present study used a word reading test to measure knowledge of the English alphabetic principle. In line with recent literature (Rieben et al., 2005; Ouellette and Senechal, 2008), the present study calculated two types of score per participant: 'whole word-based' score (for correctly sounded *unknown* 'words') and 'rule-based' score (for correctly sounded 'target rules' within *unknown* words). Results showed that both groups made significant progress in the post-intervention word reading test, reflecting improved knowledge of the English alphabetic principle. More importantly, the results revealed significant between-group differences post-intervention. In terms of 'whole word-based' score, the RPA group significantly outperformed the EPP group (RPA group = 16.40; EPP group = 7.70). The RPA group also significantly outperformed the EPP group in 'rule-based' scores. The RPA group achieved a 71% accuracy rate out of a total of 47 rules, while the EPP group achieved only 37% (RPA = 33.30; EPP group = 17.40). The RPA group achieved a 78% accuracy rate out of a total of 25 'single letter-sound rules', while the EPP group only achieved 43% (RPA = 19.40; EPP = 10.80). The RPA group achieved a 63% accuracy rate out of a total of 22 'digraph rules', while the EPP group achieved only 30% (RPA = 13.90; EPP = 6.60). Clearly, the results were not in favour of the practice of 'deferring digraph rule teaching *until* single letter-sound rules have *all* been taught'. The EPP group (taught phonics rules in this exact sequence) performed significantly worse than the RPA group (taught phonics rules in a sequence where digraph rules were introduced *alongside* single letter-sound rules) in 'whole word', 'single letter-sound', and 'digraph' reading.

One might contemplate what could have accounted for the disparate results from the two approaches that adhere to the broad definition of explicit and systematic phonics instruction. On closer inspection, it can be clearly seen that a fundamental difference sets them apart. The EPP operates on an assumption that digraph rules are more difficult and therefore would be better deferred *until* single letter-sound rules have *all* been taught via the 'one English letter to one sound' indoctrination, a rationale reflected in its rule introduction sequence and teaching steps. In contrast, the RPA

operates on a design that discloses the nature of the English orthography: there are times when a letter *does* correspond to a sound, but most of the time it does *not*. To elucidate this nature, whenever a single letter-sound rule is introduced, digraph rules headed by the letter are also immediately introduced. Beginner readers are taught to first search for digraphs when encountering an unknown or unfamiliar printed word, convert the identified digraphs and the remaining individual letters into phonemes (sounds), and finally blend the converted phonemes to sound out the word. A possible explanation for the disparate results is that the rationale and teaching steps of the RPA better assist beginner readers in internalising the correct steps towards decoding an unknown or unfamiliar printed word. Without the 'search for digraph-first' instruction, beginner readers may wind up segmenting and converting printed words in a letter-by-letter fashion. Indeed, this was the case for most beginner readers of the present study who were taught through the EPP.

The different learning activities employed by the two phonics courses (designed with the gist of the EPP or RPA) may also have accounted for the disparate results. Recommended activities for reinforcing one's knowledge of the alphabetic principle are 'decoding' and 'blending' activities (Ehri et al., 2001; Rose, 2006). These activities prompt learners to draw on their 'recently acquired' knowledge of the alphabetic principle to segment printed words, and blend converted phonemes to sound out the word. The RPA activities take learners step-by-step through the word reading process, from utilising only letter sounds for word reading, searching for digraphs, converting the identified digraphs and remaining individual letters into phonemes (sounds), to blending the converted phonemes to sound out the word. Clearly, the RPA activities are in consonance with those employed by studies reviewed in Ehri et al. and Rose. The EPP activities, in careful examination, are 'encoding' activities which reinforce one's orthographic knowledge [9] (rather than knowledge of the alphabetic principle). Orthographic knowledge is primarily a result of a good foundation in the alphabetic principle. Activities that require a good foundation in the alphabetic principle to

[9] Orthographic knowledge is the ability to store, recall or access word-specific representations in print. It enables one to produce accurate spelling spontaneously or upon dictation, and is primarily *a result* of a good foundation in the alphabetic principle (Share, 1995; Ehri, 2005).

complete (such as 'circling the letter that corresponds to the dictated sound' or 'filling in the missing letters') are, in essence, both incomprehensible and incompletable to those without it. Supplying such beginner readers with correct answers to the activities is ineffective (Levin and Aram, 2013), and having them copy the now completed words is equally ineffective (Rieben et al., 2005) to help them learn or internalise the alphabetic principle. In short, whether the activities introduced are aimed at the targeted knowledge (in this case the alphabetic principle) appears to be another likely reason for the disparate results.

One might disregard any implications, arguing that such results were simply a comparison of two short phonics courses. It is however important to note that the courses were designed with the 'gist' of either the existing phonics practice within Taiwan's Primary English education (the EPP) or the Revelational Phonics Approach (the RPA). The present findings, cementing those of Cheng's (2014), clearly show that different phonics approaches can lead to very different results; viz., of the two phonics approaches, the RPA appears to be a more effective approach to improving Chinese L1 EFL beginner readers' knowledge of the English alphabetic principle. Systematic reviews (Ehri et al., 2001; Rose, 2006) have validated the important role of phonics instruction in improving beginner readers' knowledge of the English alphabetic principle, and recent studies have carved another notch in the assertion of the fundamental importance of a good foundation in the alphabetic principle when developing early literacy skills (e.g., Rosenthal and Ehri, 2008; Levin and Aram, 2013). Taking all this into consideration, the RPA does present itself as a worthy contender.

5. CONCLUSION

The present study examined whether the Revelational Phonics Approach (the RPA), relative to the existing phonics practice within Taiwan's Primary English education (the EPP), could better enhance Chinese L1 EFL beginner readers' knowledge of the English alphabetic principle. Findings on 'whole word', 'single letter-sound', and 'digraph' reading were unanimously in favour of the RPA.

It is, however, important to note that the researcher is by no means making claims that the additional 7-session phonics course designed with the 'gist' of the RPA covers

all the important letter-sound rules, or that 7 sessions were all that is required to develop a sound knowledge of the English alphabetic principle. The 7-session course does, however, lay the foundation of phonics teaching and paves the way for a complete phonics curriculum.

Limitations of the present study should be noted. First, the present study had a small sample, the product of both a combination of the participant selection (i.e., grade 3 total beginners from low socio-economic status families) and the small number of pupils in the majority of primary schools in Hualien County. Secondly, as it is outside the scope of the present study, no suggestions on the integration of the RPA curriculum into the 4 year 4-skill Primary English were discussed. Readers are suggested to refer to Cheng's (2014) for some practical steps. Finally, future research is also invited to investigate whether the RPA, relative to the EPP, can better enhance Chinese L1 EFL beginners' basic literacy skills such as orthographic knowledge and meaning acquisition of printed words.

REFERENCES

中文部分

王勝忠等人 (2013)，*Follow Me*，臺北：康軒文教事業。

朱友琪等人 (2013)，*Hello Kids*，臺北：康軒文教事業。

施錦雲等人 (2013)，*Story.com*，臺北：何嘉仁實業有限股份公司。

教育部 (2012)，〈國語一字多音審訂表(初稿)〉。引自 2015 年 3 月 20 日 http://www.edu.tw/FileUpload/3692-16373%5CDocuments/polyphone10112_1020207updatemail.pdf。

鄭育霖、鄭育晶、Johnson, M. (2012)，*Easy Phonics*，臺中：白象文化。

外文部分

Brysbaert, M., B. New (2009), "Moving beyond Kucera and Francis: a Critical Evaluation of Current Word Frequency Norms and the Introduction of a New and Improved Word Frequency Measure for American English," *Behavior Research Methods*, 41, 977-990.

Cheng, Y. L. (2011), "Preliminary Findings on Taiwanese EFL Teachers' Ability to Deliver High-quality Phonics Instruction: Evidence from Word Reading and Phonics Teaching Demonstrations," *National Kaohsiung First University of Science and Technology Journal of Applied Foreign Languages*, 16, 83-115.

Cheng, Y. L. (2012), "Teaching Phonics to Chinese L1 EFL pupils: Pathway to the Future," *International Journal of Computer-Assisted Language Learning and Teaching*, 2(3), 76-94.

Cheng, Y. L. (2014), "A Comparison of Two Phonics Approaches on Chinese L1 EFL Beginners' Letter-sound Knowledge: Evidence from Word Reading and Spelling," *SPECTRUM: Studies in Language, Literature, Translation, and Interpretation*, 12(2), 1-22.

Coltheart, M. (1980), "Reading, Phonological Recoding and Deep Dyslexia," in M. Coltheart, K. Patterson and J. C. Marshall (eds.), *Deep Dyslexia*, 197-226, London, UK: Routledge and Kegan Paul.

Dehaene, S. (2009), *Reading in the Brain: The Science and Evolution of a Human Invention*, New York, NY: Viking Penguin.

GL Assessment (2012), *Diagnostic Test of Word Reading Processes*, London, UK: GL Assessment.

Ehri, L. C., S. R. Nunes, S. A. Stahl and D. M. Willows (2001), "Systematic Phonics Instruction Helps Students Learn to Read: Evidence from the National Reading Panel's Meta-analysis," *Review of Educational Research*, 71, 393-447.

Ehri, L. C. (1995), "Phases of Development of Reading Words by Sight," *Journal of Research in Reading*, 18, 116-125.

Ehri, L. C. (2005), "Learning to Read Words: Theory, Findings, and Issues," *Scientific Studies of Reading*, 9(2), 167-188.

Frost, R., L. Katz and S. Bentin (1987), "Strategies for Visual Word Recognition and Orthographical Depth: A Multilingual Comparison," *Journal of Experimental Psychology: Human Perception and Performance*, 13, 104-115.

Harrison, B. and J. Clyde (2005), *Reading through Tears: New Insights into the Teaching of Reading*, Tasmania, Australia: VAS.

Johnson, R. and J. Watson (2007), *Teaching Synthetic Phonics*, Exeter, UK: Learning Matters.

Katz, L., and R. Frost (1992),"Reading in Different Orthographies: The Orthographic Depth Hypothesis," in R. Frost and L. Katz (eds.), *Orthography, Phonology, Morphology, and Meaning*, 67-84, Amsterdam, NL: North-Holland.

Krashen, S. D. (1982), *Principles and Practice in Second Language Acquisition*, Oxford, UK: Pergamon.

LaBerge, D. and S. J. Samuels (1974), "Toward a Theory of Automatic Information Processing in Reading," *Cognitive Psychology*, 66, 293-323.

Levin, I. and D. Aram (2013), "Promoting Early Literacy via Practicing Invented Spelling: a Comparison of Different Mediation Routines," *Reading Research Quarterly*, 48(3), 221-236.

Light, J. and D. McNaughton (2012), "Supporting the Communication, Language, and Literacy Development of Children with Complex Communication Needs: State of the Science and Future Research," *Assistive Technology*, 23, 34-44.

Marilou, H. (2008), *Enthusiastic and Engaged Learners: Approaches to Learning in the Early Childhood Classroom*, New York, NY: Teachers College Press.

Nishanimut, S. P., R. S. Johnston, R. M. Joshi, P. J. Thomas and P. Padakannaya (2013), "Effect of Synthetic Phonics Instruction on Literacy Skills in an ESL Setting," *Learning and Individual Differences*, 27, 47-53.

Ouellette, G. and M. Senechal (2008), "Pathways to Literacy: AStudy of Invented Spelling and its Role in Learning to Read," *Child Development*, 79(4), 899-913.

Rieben, L., L. Ntamakiliro, B. Gonthier and M. Fayol (2005), "Effects of Various Early Writing Practices on Reading and Spelling," *Scientific Studies of Reading*, 9(2), 145-166.

Rose, J. (2006), *Independent Review of the Teaching of Early Reading: Final Report*, London, UK: Department of Education and Skills.

Rosenthal, J. and L. C. Ehri (2008), "The Mnemonic Value of Orthography for Vocabulary Learning," *Journal of Educational Psychology*, 100(1), 175-191.

Seymour, P. H. K., M. Aro and J. M. Erskine (2003), "Foundation Literacy Acquisition in European Orthographies," *The British Journal of Psychology*, 94, 143-174.

Share, D. (1995), "Phonological Recoding and Self-teaching: Sine Qua Non of Reading Acquisition," *Cognition*, 55, 151-218.

Share, D. (2004), "Knowing Letter Names and Learning Letter Sounds: A Causal Connection," *Journal of Experimental Child Psychology*, 88, 213-233.

Stanovich, K. E. (2010), *How to Think Straight about Psychology*, Boston, MA: Pearson.

Torgesen, J., R. Wagner and C. Rashotte (2012), *Test of Word Reading Efficiency-2*, TX: Pearson Education.

The Burt Reading Test (1974), Retrieved March 1, 2013, from http://www.childrens-stories.net/reading-age/burt-reading-age-test.pdf.

Letters and Sounds: Principles and Practice of High Quality Phonics. Retrieved September 1, 2012, from https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/190599/Letters_and_Sounds_-_DFES-00281-2007.pdf.

UK Phonics Screening Check Practice Sheet (2012), Retrieved August 1, 2013, from https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/221767/phonics_20screening_20check_20sample_20materials.pdf.

Wang, M., K. Koda and C. Perfetti (2003), "Alphabetic and Nonalphabetic L1 Effects in English Word Identification: A Comparison of Korean and Chinese English L2 Learners," *Cognition*, 87, 129-149.

Willis, J. (2006), *Research-based Strategies to Ignite Student Learning*, Alexandria, VA: ASCD.

Appendix 1

Word Reading List with Target Rules and Frequency Values

Word	Frequency Graphemes Phonemes	Word	Frequency Graphemes Phonemes	Word	Frequency Graphemes Phonemes
saint	17.92 s, ai, n, t [s], [eɪ], [n], [t]	glue	5.88 g, l, ue [g], [l], [u]	lord	138.16 l, or, d [l], [ɔr], [d]
looter	0.67 l, oo, t, er [l], [u], [t], [ɚ]	jaunt	0.37 j, au, n, t [ʤ], [ɔ], [n], [t]	wear	109.33 w, ea, r [w], [ɛ], [r]
actor	26.33 a, c, t, or [æ], [k], [t], [ɚ]	ox	7.78 o, x [ɑ], [ks]	beam	8.83 b, ea, m [b], [i], [m]
pay	254.61 p, ay [p], [eɪ]	void	- v, oi, d [v], [ɔɪ], [d]	suit	68.61 s, ui, t [s], [u], [t]
moat	1.18 m, oa, t [m], [o], [t]	fur	8.27 f, ur [f], [ɜ]	hew	- h, ew [h], [ju]
sour	- s, ou, r [s], [aʊ], [r]	jam	- j, a, m [ʤ], [æ], [m]	raw	- r, aw [r], [ɔ]
coy	1.73 c, oy [k], [ɔɪ]	dirt	25.69 d, ir, t [d], [ɜ], [t]	sum	- s, u, m [s], [ʌ], [m]
kart	- k, ar, t [k], [ɑr], [t]	zit	1.02 z, i, t [z], [ɪ], [t]	towel	14.16 t, ow, *el* [t], [aʊ], [əl]
quack	4.63 qu, a, *ck* [kw], [æ], [k]	yet	341.73 y, e, t [j], [ɛ], [t]		

Note:

1. Words that do not show a frequency value are not included in the SUBTLEXus (Brysbaert & New, 2009).
2. Graphemes in italics were outside the scope of the 7-session phonics course.

Appendix 2

Words Practised in the 7-Session Phonics Course

tax	beg	quit	cow	park
new	tail	jaw	zoo	vault
coat	true	reap	slur	head
way	enter	mouth	for	soil
bird	doctor	toy	fruit	yum

Appendix 3

The EPP Lesson Plan

(1) Sessions 1 to 3: the 25 single letter-sound rules. Steps for teaching the single letter-sound rules are as follows, taking the teaching of the *a*-[æ] rule as an example:

(a) Show a flash card with a picture/photograph of a tax office (with its corresponding Chinese characters and zhùyīnfúhào) and the English word, *tax*, on it. Then, provide an additional explanation in Chinese to assist comprehension of the word.

(b) Write *a* and *tax* on the chalkboard.

(c) Instruct in Chinese, "Please repeat after me", then say, "Tax [tæks]" in English.

(d) Point to the standalone *a* and model the sound [eɪ] (i.e., letter name). Have the pupils echo in unison: [eɪ].

(e) Point to the standalone *a*, then *a* in *tax*, and model the sounds [eɪ], [æ] (i.e., letter name, letter sound). Have the pupils echo in unison: [eɪ], [æ].

(f) Point to the standalone *a*, then *a* in *tax*, finally the whole word *tax*, and model the sounds [eɪ], [æ], [tæks]. Have the pupils echo in unison: [eɪ], [æ], [tæks].

(2) Sessions 4 to 6: the 22 digraph rules. Steps for teaching the digraph rules are as follows, taking the teaching of the *ai*-[eɪ] rule as an example:

(a) Show a flash card with a picture/photograph of a cat's tail (with its corresponding Chinese characters and zhùyīnfúhào) and the English word, *tail*, on it. Then, provide an additional explanation in Chinese to assist comprehension of the word.

(b) Write *ai* and *tail* on the chalkboard.

(c) Instruct in Chinese, "Please repeat after me", then say, "Tail [teɪl]" in English.

(d) Point to the standalone *ai* and model the sounds [eɪ]-[aɪ] (i.e., letter names). Have the pupils echo in unison: [eɪ]-[aɪ].

(e) Point to the standalone *ai*, then *ai* in *tail*, and model the sounds [eɪ]-[aɪ], [eɪ] (i.e., letter names, digraph sound). Have the pupils echo in unison: [eɪ]-[aɪ], [eɪ].

(f) Point to the standalone *ai*, then *ai* in *tail*, finally the whole word *tail*, and model the sounds [eɪ]-[aɪ], [eɪ], [teɪl]. Have the pupils echo in unison: [eɪ]-[aɪ], [eɪ], [teɪl].

(3) Activities

After teaching the rules designated for each session, supply two activities that are typical of the phonics teaching within the 4-year Primary English. The first activity requires the pupils to fill in the missing letter(s) for each of the practised words as dictated. The second activity requires the pupils to write the whole target word several times.

Appendix 4

The RPA Lesson Plan

(1) Trainee Teacher Preparation:

Prior to teaching the RPA group, the trainee teachers would be first supplied with a brief description of the fundamental orthographic differences between the two languages and an explanatory account on how such differences may interfere with our EFL pupils' learning to read English.

(2) Steps and Activities for Teaching Session 1

(a) Introduce the 26 letters as 'the children of Mother English'. Review *letter shapes* and *letter names*.

(b) Teach the following new concepts: (i) an English printed word is usually formed by a group of letters; (ii) *letter sounds* rather than *letter names* are used when word reading (decoding).

(c) To ensure that pupils understand that *letter sounds* (not *letter names*) are used when word reading (decoding), do the following:

(i) Write some letters on the left hand side of the board (e.g., *r*, *a*, *s*, *i*, *d*, *o*, *p*, *e*, *t*, *b*, *u*, *g*). Space the letters far apart. Then, write five words containing these letters on the right (e.g., *rat*, *sit*, *dot*, *pet*, *bug*);

(ii) Encourage pupils to volunteer or invite them onstage to point to any target letter on the left hand side of the board (e.g., *r*) as dictated.

(iii) Point to the corresponding letter (e.g., *r* in *rat*) on the right hand side of the board, and ask the pupils whether *r* is called [ɑr]. (NB: The correct answer is "No." This is because the *r* in *rat* should be pronounced as [r] not [ɑr].)

(iv) Explain to the pupils with a short narrative (delivered in Chinese) as below:

> Trainee teacher (TT): Mother English has 26 children. The children like to play in the park in small groups. As you can see, on the right side of the board are five groups of children: *rat*, *sit*, *dot*, *pet*, and *bug*. Mother English gave every child a *shorter name* for calling them home quickly. You can see that *r* is out with two friends, *a* and *t*. Mother English will not call her [ɑr] because she

is out with friends. Mother English will call her by her *shorter name* when she is out with friends. We will learn about her *shorter name* later."

(v) Repeat the above steps with any random letters until pupils have completely understood that *letter sounds* rather than *letter names* are used when 'word reading'.

(3) Steps and activities for teaching sessions 2 to 4 (i.e., the 5 single vowel letter-sound and 21 vowel digraph rules) are as follows. Taking the teaching of the *a*-[æ] rule as an example:

(a) Teach explicitly 'when a letter *does* correspond to a sound' (e.g., when the letter is *not* the head letter of a digraph), rather than 'that a letter *always* corresponds to a sound'. Teach this concept using a short narrative (delivered in Chinese) as below:

Trainee teacher (TT): Now, let's learn child *a*'s shorter name [æ]. Did you know that some children are closer than others? Some children are best friends, and they ask Mother English to give them a *special pair name* for calling them back. The pair name is not the combination of their individually assigned new names. They think this is a symbol of their strong bond. Now, let's meet child *a*'s best friends: *i*, *r*, *u*, *w*, and *y*, and learn their *special pair names*: *ai*-[e], *ar*-[ɑr], *au*-[ɔ], *aw*-[ɔ], and *ay*-[e].

(b) To ensure that pupils learn 'when *a* corresponds to [æ]' rather than that '*a*always corresponds to [æ]' and the 5 *a*-headed digraph rules, do the following:

(i) Write words containing the target rules on one side of the board (*tax*, *tail*, *park*, *vault*, *jaw*, *way*) and the corresponding target letter(s) on the other (*a*, *ai*, *ar*, *au*, *aw*, *ay*);

(ii) Encourage pupils to volunteer or invite them onstage to circle the target letter(s) in the words;

(iii) After the target letter(s) have all been circled, take the class through the target rules (*a*-[æ], *ai*-[e], *ar*-[ɑr], *au*-[ɔ], *aw*-[ɔ], *ay*-[e]);

(iv)Erase the board and write the target letter(s) (*a*, *ai*, *ar*, *au*, *aw*, *ay*). Shout out a sound (e.g., [e]) and encourage the pupils to volunteer or invite them onstage to point to the corresponding letter(s) (*ai* and/or *ay*);

(v) Repeat the above steps and activities for teaching sessions 3 and 4 (i.e., the remaining 4 single vowel letter-sound and 15 vowel digraph rules).

(4) Steps and activities for teaching sessions 5 and 6 (i.e., the remaining 20 single consonant letter-sound and 2 consonant digraph rules) are as follows. At this stage, pupils should already know: (a)*letter sounds* (rather than *letter names*) are used when word reading (decoding); and (b) when a letter *does* correspond to a sound. With these two concepts, pupils should find the remaining rules fairly easy to learn.

(a) Now, refresh pupils' memory of the above two concepts with a short narrative (delivered in Chinese) as below:

> Trainee teacher (TT): As you already know, Mother English has 26 children, and the children like to play in the park in small groups. Mother English gave every child a *shorter name* for calling them home quickly. We have learnt the *shorter names* for *a*, *e*, i, *o*, *u* and the *special pair names* they share with their best friends. Let's now learn the *shorter names* for the remaining children and meet their best friends.

(b) At the end of session 5 and session 6, introduce an activity to ensure that pupils have learntboth to use *letter sounds* (rather than *letter names*) when word reading (decoding) and the remaining 20 single consonant letter-sound and 2 consonant digraph rules. Taking the activity for session 5 as an example:

(i) Write 12 letters on the left hand side of the board (i.e., *b*, *c*, *d*, *f*, *g*, *h*, *j*, *k*, *l*, *m*, *n*, *t*) and 9 words containing these letters on the right (e.g., *beg*, *coat*, *head*, *for*, *jaw*, *park*, *tail*, *mouth*, *new*).

(ii) Encourage pupils to volunteer or invite them onstage to point to any target letter on the left hand side of the board (e.g., *c*) as dictated. Then, point to the corresponding letter (e.g., *c* in *coat*) on the right hand side of the board, and ask the pupils whether *c* is called [si]. The correct answer is "No."

(iii) If the pupils answer correctly, ask a follow up question: "Why is *c* not called [si]?" The correct answer is: "*C* is out with friends."

(iv) If the pupils answer correctly, respond with a comment and a question: "Very good. When *c* is out with friends, she is *not* called [si]. *C* may be called by her *shorter name* or a *special pair name* if she is with her *best friend(s)*. We will learn about *c*'s best friends in another lesson. Now, can anyone tell me what *c* is called as in *coat*?" The correct answer is: "[k]."

(v) If the pupils answer correctly, respond with a comment and a final question: "Excellent! When *c* is out with friends, she is *not* called [si]. When *cis* out with her best friends, she is called [k].

(vi) Repeat Step II and activities for teaching the remaining 2 consonant digraph rules (i.e., *qu*, *ck*).

(5) Steps and activities for teaching session 7 are as follows. At this stage, pupils should already know: (a) *letter sounds* (rather than *letter names*) are used when word reading (decoding); (b) when a letter *does* correspond to a sound, and (c) all the target letter-sound rules.

(a) Teach pupils that the correct approach to sounding out a word is by converting the letters into *letter sounds* and combining those sounds from left to right to read aloud as *one unit*. To ensure that pupils follow the steps of searching for digraphs first, converting single letters and digraphs into phonemes, and blending phonemes for word reading (decoding), do the following:

(b) Now, refresh pupils' memory of what they have learnt with a short narrative (delivered in Chinese) as below:

> Trainee teacher (TT): As you already know, Mother English has 26 children, and the children like to play in the park in small groups. Mother English gave every child a *shorter name* for calling them home quickly. We have learnt the *shorter names* for each of the 26 children and the *special pair names* they share with their best friends. To further speed up the process, Mother English decided to call them by their *team name,* which is the combination of their new names.

(c) Write all the practice words on the board in two halves. Write those with digraphs on the left hand side of the board (e.g., *coat*, *head*), and those without digraphs on the right (e.g., *tax*, *beg*).

(d) Point to the first practice word on the right side of the board (i.e., *tax*) and ask: "In this group, are there any *special pairs*?" The correct answer is "No." If the pupils answer correctly, respond with a comment and say: "Very good. Now, this group's *team name* is [tæks]. Let me show you how to work out their *team name*. Remember the *team name* is the combination of *shorter names* and *special pair names*. *T*'s *shorter name* is

[t], *a*'s *shorter name* is [æ], and *x*'s *shorter name* is [ks]. As there are no *special pairs*, all we need to do now is to combine all the *shorter names* [t], [æ], and [ks]. The *team name* is the *shorter names* read really quickly, [t], [æ], [ks], [tæks]."

(e) Next, point to the first practice word on the left side of the board (i.e., *coat*) and ask: "In this group, are there any *special pairs*?" The correct answer is "Yes." If the pupils answer correctly, respond with a comment and ask a follow question: "Very good. Who are the *special pairs*?" The correct answer is: "*oa*". If the pupils answer correctly, respond with a comment and ask another follow up question: "Very good. What is the *special pair name*?" The answer is: "[o]". If the pupils answer correctly, respond with a comment and ask a final follow up question: "Very good. What is the group's *team name*? Remember the *team name* is the combination of *shorter names* and *special pair names*. *C*'s *shorter name* is [k], *oa*'s *special pair name* is [o], and *t*'s *shorter name* is [t]. Now, all we need to do now is to combine all the *shorter names* and *special names* [k], [o], and [t]. The *team name* is the *shorter names* read really quickly, [k], [o], [t], [kot]."

(f) Repeat (b) and (c) for teaching all the practice words.

(6) Finally, tell the pupils what the practice words mean in Chinese.

Effects of the Revelational Phonics Approach on Chinese L1 EFL Beginners' Knowledge of the English Alphabetic Principle: Further Evidence from 'Whole Word', 'Single Letter-Sound', and 'Digraph' Reading

「揭示取向」Phonics 課程對提升臺灣兒童英文初學者「字母——字音對應知識」貢獻的再印證：從「全字」、「單一字母——字音規則」、或「二合字母規則」表現來看

鄭育霖*

摘　要

本文進行兩種 Phonics 教學取向對提升臺灣學童「字母——字音對應知識」成效的比較。兩組「家庭社經地位」、「英語基底能力」、「學習熱忱」相當的初學學童，分別接受 7 堂「額外」的 Phonics 課程。A 組接受以「現行教學取向」理念設計的 Phonics 課程，B 組接受以「揭示取向」理念設計的 Phonics 課程(Cheng, 2014)。在「設計理念」、「Phonics 規則教學順序與步驟」、「教學活動設計」安排上，兩種教學取向存在極大差異。學習成效衡量依循文獻傳統以「讀字表現」爲主。實驗結果發現：不論是「全字」、「單一字母——字音規則」、或「二合字母規則」表現上，B 組顯著優於 A 組。本研究呈現更多支持「揭示取向」Phonics 教學的有力證據，希望有提供教學單位參考的價值。

關鍵詞：英語爲外語、Phonics、字母——字音對應知識、字母——字音轉換

* 作者爲國立東華大學英美語文學系副教授，E-mail: ylcheng@mail.ndhu.edu.tw，感謝編輯委員以及三位匿名審查委員提出之寶貴建議，作者對此深表感謝。