

Spelling-based Phonics Instruction: It's Effect on English Reading and Spelling in an EFL Context

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Abstract

Systematic phonics instruction in first language education has recently received considerable research attention due to its critical role in facilitating phonological awareness and processing skills. However, little is known about the effects of systematic phonics instruction on foreign language reading and spelling in an EFL context. This study examined the effects of spelling-based phonics instruction on 9-12 year old Persian speaking learners' reading and spelling English words. The participants were randomly assigned into two groups: a control group who received non-phonics instruction, and an experimental group who received spelling-based phonics instruction. CORE Phonics Survey (2003), a battery of diagnostic tests and tasks, was used to uncover the effects of phonics on oral reading and word spelling development of the learners. The results of independent-samples t-test revealed that after 10-weeks of instruction, the spelling-based phonics instruction had really significant effects on improving both young Iranian EFL learners' oral reading and whole word spelling. In other words, the experimental group benefited from spelling-based phonics instruction compared to the group with non-phonics instruction.

Keywords: Spelling-Based Phonics Instruction, Non-Phonics Instruction, English Reading, English Spelling, Young Iranian EFL Learners

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1. Introduction

It has often been found that learning to read and spell is a complex task for novices especially for young learners of English as a foreign language. They must coordinate many cognitive processes to read fluently and spell accurately. Systematic phonics instruction is a way of teaching reading that stresses the acquisition of grapheme-phoneme correspondences and their use to read and spell words (Harris & Hodges, 1995). Phonics instruction is designed for beginners in the primary grades and for children having difficulty learning to read (The National Reading Panel, 2000).

Systematic phonics instruction, according to Chall (1996), leads to better reading growth; this is because knowledge of phonics helps in word recognition development. Word recognition increases reading fluency, which in turn, improves reading comprehension since children are not struggling with decoding and are able to devote their full attention to making meaning from text. It also improves spelling ability as Pinnell (1994) has mentioned, reading and spelling are interrelated processes. Whereas phonics is characterized by putting together sounds to read words that are printed, spelling involves breaking down spoken words into sounds in order to write them. To spell, or encode a word, a child must match a spelling to each sound heard in the word (Blevins, 2006). Spelling development usually lags behind reading development, for the most part word can be read before it can be spelled. So spelling necessitates better visual remembrance than reading.

Systematic phonics instruction as a research topic has received a substantial amount of research attention from both academics and language teachers in first-language education in contexts such as US, UK (Gregory, 2008; Harrison, 2004), Australia and Newzeland (Bowey, 2006) where the phonics instruction is a mandatory act), while little is known about the effects of phonics

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instruction on foreign language learners' reading and spelling. The National Reading Panel (2000) has conducted a meta-analysis of 38 researches and provided a solid support for the efficacy of phonics instruction in first language (L1) contexts whether it was synthetic or analytic. However, there is a conspicuous gap in research studies of phonics instruction for foreign language (FL) or second language (L2) learners. The need of such research brings to the mind the question of whether phonics instruction is equally effective in English literacy (reading and spelling) development irrespective of learners and learning contexts, or whether any approach to phonics instruction toward literacy in inner circle contexts has absolutely similar implications for outer or expanding circle contexts.

The significance of this study can be justified on the grounds that in Iran there is no or little belief in phonics instruction or in its necessity for developing early literacy acquisition in English. This may be due to their strong belief in traditional whole language (non-phonics) approach. In this study, the case of spelling-based phonics instruction is used in the context of Iran to show how an unfamiliar approach is interpreted and implemented. Thus, the results of the study are significant in that they may provide an applicable model for educators who can determine how to teach EFL students to read and write effectively. Furthermore, the implementation of the spelling-based phonics instruction in the classroom may provide a more contextualized account of the actual teaching/learning process and confirm or contradict the findings of the previous studies. This paper will try to fill the gap that exists in the Iranian context in the literature on spelling-based phonics which had not been dealt with for years. The main objective of this study is to investigate the role phonics plays in young Persian EFL learners' single word reading and whole word spelling development. Spelling-based Phonics approach deals with the segmentation of

the phonemes (sound units) in a word and the connection of these sound units with the letters they associate. Even if the child's spelling of the word is not exactly correct, the act of using segmentation to spell builds important skills that he can often apply while writing (Williams, 2010). The specific research questions this study sets out to answer are:

1. Does spelling-based phonics instruction have any significant effect on improving young Iranian EFL learners' single word reading?
2. Does spelling-based phonics instruction have any significant effect on young Iranian EFL learners' whole word spelling ?

2. Literature Review

The National Reading Panel (2000) has conducted a meta-analysis of 38 resaerches and provided a solid support for the efficacy of phonics instruction in first language contexts whether it was synthetic or analytic. However, there is a conspicuous gap in research studies of phonics instruction for foreign language or second language learners. Systematic phonics instruction is a way of teaching reading that stresses the acquisition of grapheme-phoneme correspondences and their use to read and spell words (Harris & Hodges, 1995). Teaching grapheme-phoneme connections is problematic and as a consequence teaching of phonics has led to lots of pedagogical debates.

2.1. Phonics versus Whole Language

Phonics is a challenging topic, and everyone from parents, teachers, and legislators to professionals in the field are talking about it. There has been a fundamental disagreement about what Chall (1983, 1996) called 'the great debate': a debate between those researchers and educators who advocate

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approaches that focus on breaking the code (bottom-up) and those who advocate instruction that relies on a meaning-emphasis (top-down) approach.

The main issues that separate these two parties are largely those of direct instruction in phonics versus learning language naturally. Those most strongly identified with whole language instruction claim that, an approach that is whole cannot be easily reduced to parts (e.g. Goodman, 1998; Smith, 1994). Researchers such as Jeynes and Littell (2000), Shaw (1991), and Stahl and Miller (1989) suggested that, “Whole language” literacy instruction emphasizes the use of whole literature texts (that is, not adapted, abridged, or segmented), student choice within tasks, and natural language experiences as opposed to direct instruction in isolated skills. Whole language advocates criticize an emphasis on the direct teaching of phonics, claiming that direct instruction in letter-sound associations is a common teaching practice. However, direct instruction in letter-sound associations does not actually seem to be necessary for young children to learn letter-sound associations. Moreover, instruction in letter-sound associations may not even be appropriate for young children. Thus, instruction should work to increase the number of print words that children recognize. Indeed, “whole language instruction,” which by nature uses whole literature texts and natural language experiences such as shared storybook reading, reflects this idea (Moustafa, 1993; Routman, 1996; Weaver, 1998).

Phonics is rarely clearly defined in literature addressing the topic, as is the case for whole language. Additionally, in many research studies of phonics instruction, ‘phonics’ remains a controversial term (Brown, 1998). According to Savage (2007) “Phonics is not an end in itself, it is a means to an end” (p. 20). It is a practical subject which breaks the letter-sound rules of the writing system into bite sized pieces easy for the pupil to learn. Savage furthermore explained

that “in a nutshell, phonics can be defined as the conscious, concentrated study of the relationship between sounds and symbols of the purpose of learning to read and spell.” (p. 7). The most widely-used and well accepted definition was proposed by Hinson and Smith (1993) who suggested that phonics is a system that maps sounds (phonemes) to letters (graphemes/ symbols).

Advocates of phonics instruction suggest that Phonics instruction is more effective if provided systematically and balanced with instruction in both letter-sound associations and letter sequence-rhyme associations. They believe that children must learn the general principle that spellings correspond to sounds and that letter-sound cues are more important in recognizing words than either semantic or syntactic cues. In general, reading acquisition is seen as a linguistic information processing sequence (Stanovich, 1991; Sweet, 1997).

Stanovich and Stanovich (1995) assert that an ongoing dispute between proponents of the two parties has hurt literacy teaching and learning, and so they attempt to resolve this dispute. The issues that separate the two parties are whether direct instruction in phonics skills is essential for learning to read, and whether children can learn written language naturally. On these points, the advocates of whole language have a strong belief in learning sound-letter system through immersing learners in a print-rich environment (weaver, 1998), whereas phonics advocates emphasize on systematic and explicit skills instruction that facilitate letter perception, phonemic awareness, and word decoding skills (Adams, 1990; Beck & Juel, 1995; Chall, 1996; Stanovich, 1991; Sweet, 1997).

Many professionals in the field are in favor of an integrated approach that is a movement towards an evidence-based approach to literacy instruction that combines aspects of both whole language and phonics approaches (Pressley, 1998).

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Nonetheless, some researchers (e.g., Bruck, Treiman, Caravolas, Genesee & Cassar, 1998; Stuart, 1999) have sought to compare students' literacy performance under phonics instruction with that of students under whole language instruction. The results of many of these studies indicated that phonics-trained learners are better at word reading and are more accurate spellers. However, advocates of whole language object to such relative effectiveness studies and argue that many of the effectiveness tests do not include performance on tests of reading comprehension, which they consider the main goal of reading instruction (Krashen, 2002).

2.2. Efficacy of the Phonics Approach

Evaluating the efficacy of systematic phonics instruction has been addressed many times in the literature. The best known effort was Chall's (1967) comprehensive review of beginning reading instruction covering studies up to the mid-1960's, her basic finding was that a code-emphasis reading program was more effective than a meaning-emphasis program for most children. This conclusion has been reaffirmed in many research reviews conducted since then (e.g., Adams, 1990; Anderson, Hiebert, Scott, & Wilkinson, 1985; Balmuth, 1982; Dykstra, 1968).

Additionally, a large-scale evidence-based evaluation of early reading instruction commissioned by the US Congress clearly demonstrated the superiority of phonics instruction over other approaches (Ehri et al., 2001).

The post-intervention testing that follows phonics instruction is typically based on measures of phoneme-grapheme knowledge and word knowledge in isolation, and as such does not cover a wide range of reading behavior and does not assess reading comprehension, which is of central importance in an assessment of reading ability (Krashen, 2002; Leslie & Allen, 1999). Krashen

(2002) reexamined studies comparing the efficacy of different approaches that did include measures of reading comprehension and found that children in phonics programs did not perform as well on measures of reading comprehension as those in meaning-emphasis programs. There are also general concerns amongst scholars and educators about an over-emphasis on phonics instruction. Of particular concern is that understanding may be absent despite successful decoding of text and therefore apparent success in reading, and also that the cognitive demand of decoding may interfere with meaning construction (Wyse, 2000).

2.3. Different Types of Systematic Phonics Instruction

In teaching phonics explicitly and systematically, several different instructional approaches have been used (Aukerman, 1984; Harris & Hodges, 1995). According to NRP's (2000) executive summary, these include synthetic phonics, analytic phonics, embedded phonics, analogy phonics, onset-rime phonics, and phonics through spelling. Although all explicit, systematic phonics approaches use a planned, sequential introduction of a set of phonic elements along with teaching and practice of those elements, they differ across a number of other features.

2.4. Teaching Phonics

Almost everyone has his/her opinion about how phonics should (and should not) be taught. However, the question of how to teach phonics is not a new issue. In 1934, Paul McKee, one of the most prominent reading figures of his day, wrote

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The question of instruction in phonics has aroused a lot of controversy. Some educators have held to the proposition that phonetic training is not only futile and wasteful but also harmful to the best interests of a reading program. Others believe that since the child must have some means of attacking strange words, instruction in phonics is imperative. There have been disputes also relative to the amount of phonics to be taught, the time when the teaching should take place, and the methods to be used. In fact, the writer knows of no problem around which more disputes have centered (p. 191).

The aforementioned quotation suggests that, there was a little knowledge on which to base decisions regarding how phonics should be taught. Nowadays, there is a vast amount of knowledge about how the brain works, how children learn, and how words are structured.

Based on the available evidence, it seems that all kinds of systematic phonics instruction play a role in helping children learn to read a relatively inconsistent orthography like English (Goswami, 2005). Most researches however have referred to the complexity of learning to read and the impossibility of defining a single 'most effective' approach based simply on experimental studies. It is argued that for better understanding of the efficacy of any literacy approach, a methodology that synthesizes experimental research and qualitative research should be adopted. Under the influence of the longitudinal Clackmannanshire research comparing the effect of synthetic phonics and analytic phonics (Johnston & Watson, 2004), all the inner circle contexts countries adopted 'scientifically based' approaches to teaching reading and mandated that all children must have systematic, intensive phonics instruction. However, it appears that if phonics instruction is to be maximally

effective, it should be early, systematic, clear and direct, frequently practiced and applied, meaningful, and integrated with other word-identification skills into an effective word-recognition strategy (Trachtenburg, 1990).

3. Methodology

3.1. Participants

The participants for the present study were invited from different public elementary schools. In order to find and invite required students to participate in this research, a large number of invitation cards distributed among elementary schools under the title of “Free English Instruction in 30 sessions, for elementary students at the grades of four, five, and six”. In Iran, the students start formal education in grade one when they are seven years old, and the language of instruction is Persian. Teaching English as an official subject begins at the first grade in secondary school (or 7th Grade). After the enrollment of about 85 students, in order to eliminate variables other than phonics that could potentially influence participants’ use of phonics skills and hence confound the results of the study, the sampling focused only on learners who hadn’t begun their official educational EFL program and those who hadn’t learnt English in private institutions. For this purpose, with the help of three M.A students of TEFL, CORE Phonics Survey (CPS, 2003) as a pre-test was administered to all of the students who registered for the course. The diagnostic test as the pre-test phase measured reading and spelling separately. If the participant was able to decode any Consonant-Vowel-Consonant (CVC) words in the pre-test, this would indicate more advanced phonics skills than the scope of this study. So, any potential participant who could sound out the consonant and vowel sections completely and read the CVC word list with 50% or more accuracy rate was eliminated since the focus of the study addressed a

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decoding intervention. And also any potential participant who spelled most of the sounds correctly on the spelling part would have been eliminated from this study.

Based on the results of the pre-test, 53 participants achieved similar results in their test before commencement of the project which indicated their comparability. They were 31 boys and 22 girls aged 9 to 12 years. The students were randomly assigned into two groups of treatment group (N=27) who received spelling-based phonics instruction, and control group (N=26) who received non-phonics instruction similar to that of official English classes at the secondary school in Iran.

During the instructional procedure two participants from the control group, and three from the experimental group left, which resulted in a control group of 24 participants, and an experimental group of 24 participants.

3.2. Instruments

The instrument for this study was a battery of diagnostic tests; CORE Phonics Survey (CPS, 2003) which its measures collected as both pre-test (in order to ascertain whether the phonological awareness of the treatment and control groups was similar) and post-test after the 25-30 sessions of instruction.

The CORE Phonics Survey assesses the phonics and phonics related skills that have a high rate of application in beginning reading. Each survey presents a number of lists of letters and words for the student to identify or decode. Pseudo words, or made-up words, are included since the student must use decoding skills to correctly pronounce these words to assure that he or she has not memorized them. These assessments are best used to plan instruction for students in the primary grades (Diamond & Thorsnes, 2008).

Real words are those that have meaning whereas pseudo/nonsense words resemble real words, but are actually meaningless, such as “snop” and “glab.” This data is collected because, in theory, if students understand how to decode words, that is they have the requisite word recognition knowledge, they should be able to read both pseudo and real words with confidence. If students are only capable of reading real words with accuracy, it is unlikely that they have word recognition knowledge; they are unable to decode (Adams, 1990).

Recently, the CORE Phonics survey was found to have construct and content validity (Brandt, 2010). The survey also was found to be valid in criterion validity for students in the elementary grades (Brandt, 2010).

For administering each part of the survey, the students read the CPS (2003) record sheet, then the test giver recorded the scores on provided places. The CPS which is administered in this study consists of the following three skill areas:

A. Alphabet Skills

This section consists of five sub-tests:

1. Letter names – uppercase. The students were asked to tell the name of these letters: D, A, N, S, X, Z, J, L, H, T, Y, E, C, O, M, R, P, W, K, U, G, B, F, Q, V, I.
2. Letter names – lowercase. The students were asked to tell the name of these letters: d, a, n, s, x, z, j, l, h, t, y, e, c, o, m, r, p, w, k, u, g, b, f, q, v, i.
3. Consonant sounds. The students were asked to tell the sound each letter makes: d, l, n, s, x, z, j, t, y, p, c, h, m, r, k, w, g, b, f, q, and v.
4. Long vowel sounds. The students are asked to tell the long sound each letter makes: e, i, a, o, u.

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5. Short vowel sounds. The students were asked to tell the short sound each letter makes: e, i, a, o, u.

B. Reading and Decoding Skills

In order to determine the potential participants' ability to decode, the participants were asked to read aloud both real and pseudo words.

This section also includes six sub-tests:

- a) Short vowels in CVC words:

Real: sip, cat, let, but, hog

Pseudo: vop, fut, dit, kem, laz

- b) Short vowels, digraphs, and –tch trigraph:

Real: when, chop, ring, shut, and match

Pseudo: wheck, shom, thax, phitch, chud

- c) Consonant blends with short vowels:

Real: stop, trap, quit, spell, plan, clip, fast, sank, limp, held

Pseudo: stig, brab, qued, snop, dran, frep, nast, wunk, kimp, jelt

- d) Long vowel spellings:

Real: tape, key, lute, paid, feet

Pseudo: loe, bine, joad, vay, soat

- e) r-and l-controlled vowels:

Real: bark, horn, chirp, term, cold

Pseudo: ferm, dall, gorf, murd, chal

- f) Variant vowels and diphthongs:

Real: few, down, toy, hawk, coin

Pseudo: voot, rew, fout, zoy, bawk

C. Spelling Skills

This section also consists of three sub-tests: the first two parts applied in order to gain an understanding of the students' ability to apply beginning and ending consonant knowledge, and for the last part the students were asked to listen to each of the words and write the whole word.

- a. fit, map, pen, kid, hand
- b. rub, fled, leg, sell, less
- c. fork, yam, sip, shop, tub, coin, float, steep, drive, spoon

3.3. Instructional Materials

There is no official guidelines and research publication on how phonics should be taught to young EFL learners, therefore, this study made use of information provided by teaching phonics to English L1 learners as a framework to find textbooks which meet young EFL learners' various needs for phonics instruction.

The UK national literacy strategy (NLS) framework for teaching phonics established a sequence by which it should be taught:

“Students should be taught to:

- Discriminate between the separate sounds in words;
- Learn the letters and letter combinations most commonly used to represent these sounds;
- Read words by sounding out and blending the separate phonemes;
- Spell words by segmenting the phonemes and using their knowledge of letter–sound correspondences to represent the phonemes;
- Hear and identify initial, final and dominant sounds in words;
- Read the letters that represent those sounds for all letters a–z plus ch, sh and th;

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- Write each letter in response to each sound;
- Identify and write initial and final phonemes in CVC words.
- Discriminate all three phonemes in CVC words, to blend phonemes into words;
- Read and to segment words into phonemes for spelling;
- Spell the three phonemes in CVC words;
- Do the same for CCVC and CVCC words;
- Learn the common alternative spellings of 'long' vowel phonemes.”
(Department for Employment & Education, 1998)

Consequently, textbooks which could meet aforementioned criteria were identified; instruction was provided by the use of the *Making Words, Grade 1: Lessons for Home or School* (Cunningham & Hall 2014), and for the comparison class implementing non-phonics instruction, *Family and Friends alphabet book and starter*, (Simmons, Thompson, & Quintana, 2009) was provided for the purpose of instruction.

3.4. Instructional Procedures

At the preliminary stage the participants were familiarized with the lesson formats and expectations. Learners of the treatment group and the control group received different kinds of instruction. The training sessions were as follows:

3.4.1. Spelling-Based Phonics (Treatment) Group

In the introductory sessions of the program, the learners learnt the English letter names and how to write them. In addition, learners were accustomed to some key terms such as letter, word, change, add, and omit. Then, the

participants were provided with spelling-based phonics instruction consisting of the Making Words strategy. Making Words was designed as a classroom strategy in which one student builds the word for the class, while the other students have made the word at their desks. For this aim, the students were provided with magnetic letters in order to play with them and find the correct spelling. The medium of instruction was Persian. Then, the participants had the opportunity to compare and contrast their spellings to that made on the board and then make corrections. At that time, the instructor had the time to discuss the other participants. This type of instruction was conducted over 10 weeks resulting a total of 25 sessions. Prior to the beginning of each session, the participants' assignments were checked, and were corrected if any mistake or misunderstanding arose. Each session was expected to last for 60-70 minutes.

The Making Words lesson includes three steps. The first step of the lesson is a kind of guided spelling. The spelling approach of this step focused on learning letter sounds, segmenting words, blending letters, and is not designed as a method to increase sight word vocabulary (Cunningham & Hall, 2009). Students were given a pre-determined set of six to eight magnetic letters of the alphabet attached to the whiteboard. The students were asked to tell the sound of each letter and then were directed to form certain words, beginning with two-letter words and then building up to increasingly longer words. For example, the student had received instructions to use two letters from the set to spell the word at. Then the student was given instructions on making the next word, which built on the previous word. For example, the instructor might say, "Add one letter to at to spell the word, hat. Each lesson had 8 words in the making words step. All the words made during this step of the lesson were written on index cards. During this stage because of the nature of English as a foreign language, the instructor provided the learners with Persian equivalents.

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The second step of the lesson consisted of identifying and sorting some of the words that had been compiled as the student spelled them in the word-making step. This part of the lesson focused on some of the orthographic patterns that were the same in two or more words made in the lesson (Cunningham & Creamer, 2009). During this step, the students manipulated the index cards generated from the lesson and sorted them based on their rhymes. For example, the instructor choose a word from the set of cards and ask the student to find a word that look like or rhyme with the selected word, “Can you find a word that rhymes or looks like cat?”

The final step of transfer allowed the students to practice using the patterns from the lesson to spell new words. This part of the lesson was designed to help the students make the connection between familiar letters and patterns in order to decode and spell an unknown word (Cunningham & Hall, 2009). In other words, children learned how to generalize their knowledge of letter-sound relationships and familiar words to read and spell new words. But this stage of instruction, because of including difficult words for YEFL learners to decode had been delayed until the last days of instruction.

3.4.2. Non-Phonics (Control) Group

The participants in this group were taught by a qualified primary school teacher who taught the government prescribed English textbook; the teacher of this group followed the usual routine of ‘teachers read and students repeat’ without explicitly associating spelling patterns of orthographic rimes with pronunciation. Instruction involved the teacher reading out sentences in the textbook, with the learners repeating the sentences whilst looking at the text. Thus, any learning of the printed word in English would be by sight, and would be incidental. However, the learners learned the names for upper-case letters,

learned how to write them, and also learned how to put them in alphabetic order. The instruction of the control group also like the experimental group was conducted over 10 weeks resulting a total of 30 sessions.

3.5. Data Collection Procedure

An experimental pretest-posttest design was employed for this study. The main aim of pre-test was to ascertain whether the phonological awareness of the control and experimental groups were similar or not. Statistical similarity would validate the comparability of these groups. To fulfill this aim, CPS (2003) was administered.

All the administration of the CPS took place in 10-25 minutes per each learner prior to their instruction. As the single word reading required that the learners be assessed individually, the day before the instruction begins and the day after the instruction was allocated for the reading and spelling tests. Also, at the same day their spelling ability was assessed. In order to motivate the participants to take the learning tasks seriously, they were informed that they would receive a little gift after doing the tasks.

All the three tasks including alphabet skills, oral reading and spelling test took place in a quiet conference room near the participants' classrooms. It is necessary to mention that in this study, the alphabet skills of CPS (2003) and the two first parts of spelling skills have nothing to do with the data analysis of oral reading and whole word spelling, and that they just play a role of preparing the learners mind for the processes they are going to face with. During the oral reading task each participant was presented with the reading and decoding parts of CPS (2003) and asked to read the real and pseudo words. If the student couldn't read two or more of the real words, the task of reading pseudo words wouldn't be administered, and they were asked to move to the

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next set of items. All the participants were given as much time as they needed to read words. During the spelling test, the students were asked to listen and write the first sound of the first five words they hear, and listen and write the last sound of the second five words they hear in the pre-specified places. For the last part of the spelling test, the students were asked to listen to each of the words the instructor read and write the whole word. All the words in spelling task were read three times. All the participants were informed that they were allowed as much time as they needed to write down the words and that they only would hear the next word when they were ready. They were also informed that they could make any changes if they detected errors in words they had written down. All the procedures regarding implementing pre-test and post-test were the same.

To provide a pressure-free classes, all instructions were given in Persian and all the final tests and tasks were given individually by the instructor, who was the researcher himself.

Scoring was dichotomous and took about 5 minutes. Only raw scores were available, in a way that every correct pronunciation and every correct spelling would receive one score. CPS (2003) record sheet facilitates scoring and recording of incorrect responses for later analysis. For Reading and Decoding Skills subtests, pronunciation guidelines for scoring pseudo words are provided. In addition, two pronunciations were designated as acceptable for each of these items.

4. Results and Discussion

At the beginning stage, the statistical analyses showed the assumptions of homogeneity of the two groups and normality of the distribution of the scores.

The participants' ability to read real and pseudo words after spelling-based phonics instruction has also gone under the same procedure of data analysis.

Table 1 lists the descriptive statistics of oral reading test including the sample size, mean scores, and the standard deviations of the control and spelling-based groups.

Table 1. Descriptive Statistics of Oral Reading Test for Control Group and Experimental Group

	Oral reading	N	Mean	Std. Deviation
Groups	Control group	24	31.66	17.63
	Spelling-based group	24	50.08	11.91

As given in Table 1 the mean and SD were 31.66 and 17.63 for the control group with 24 participants, respectively. Also, the mean for the spelling-based group with 24 participants was 50.08 and the SD was 11.91. To see whether the difference between the means of gain scores of the oral reading for real and pseudo words in spelling-based phonics instruction and non-phonics instruction conditions was statistically significant or not an independent-samples t-test was conducted.

Table 2. Independent-Samples t-test for the Difference between the Means of the Spelling-based Group's Gain Scores and the Control Group's Gain Scores

Oral reading	Levene's Test for Equality of Variances		t-test for Equality of Means		
	F	Sig.	t	df	Sig. (2-tailed)
Equal variances assumed	7.00	.01	-4.23	46	.000
Equal variances not assumed			-4.23	40.38	.000

As Table 2 demonstrates, there is a significant difference in the scores for spelling-based phonics instruction and non-phonics instruction conditions; $t(40.38) = -4.23$, $p = 0.00 < 0.05$. The (*Cohen's d*) effect size ($d = 1.223$) was large.

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The results suggest that spelling-based phonics instruction really does have an effect on reading for real and pseudo words. Specifically, the results suggest that when the learners are under spelling-based phonics instruction, their ability for reading words improves. To examine the participants' ability to spell words after the instruction, the same procedure of data analysis was employed. The result of the descriptive statistics and *t*-test will be presented below. Table 3 lists the descriptive statistics of spelling test including the sample size, mean scores, and the standard deviations of the control and spelling-based groups.

Table 3. Descriptive Statistics of Word Spelling Test for the Control Group and the Experimental Group

	Word spelling	N	Mean	Std. Deviation
groups	Control group	24	3.83	2.20
	Spelling-based group	24	5.75	1.62

An independent-samples *t*-test was conducted to compare the means of gain scores for whole words spelling in spelling-based phonics instruction and non-phonics instruction conditions. Results for independent-samples *t*-test are listed in Table 4.

Table 4. Independent-Samples t-test for the Difference between the Means of the Spelling-based Group's Gain Scores and the Control Group's Gain Scores

Word spelling	Levene's Test for Equality of Variances		t-test for Equality of Means		
	F	Sig.	t	df	Sig. (2-tailed)
	Equal variances assumed	7.764	.00	-3.42	47
Equal variances not assumed			-3.38	37.41	.002

As given in Table 4, there is a significant difference in the means of gain scores regarding whole word spelling for spelling-based phonics instruction and

non-phonics instruction conditions; $t(46)=-3.435$, $p=0.001<0.05$. The (*Cohen's d*) effect size ($d=0.992$) was almost large. The results suggest that spelling-based phonics instruction really does have an effect on words spelling. Specifically, the results suggest that when the learners are under spelling-based phonics instruction, their ability for word spelling improves.

Based on the data provided by Tables 1 and 2, it is reasonable to assume that spelling-based group participants who sounded out more words correctly would outperform those of the control group. It appears that the experimental groups' participants' phonics knowledge worked well in helping them decode the new words successfully and control group participants' print experience didn't have much impact on their ability to sound out real and pseudo words accurately. Cunningham et al. (1999) concluded that decoding non-words seemed to require an ability that decoding real words did not, therefore, it may be logical to assume that the pseudo words are also reliable measures for assessing learners' knowledge of sound-letter correspondence. Because, sounding out the pseudo words required learners use of their knowledge of sound-letter correspondence and phonological awareness. Congruent with this view, Pressley (2006) asserts that decoding and then blending of sounds allows readers to identify words that they have never seen before or are nonsense words. This is also a process of sounding out, which good readers can do very well (Pressley, 2006). So, it is logical to assume that the number of pseudo words sounded out correctly should indicate the ability of the reader and the relative difficulty of the task.

Note that the accuracy rate was calculated as the number of new words read out correctly by a participant divided by the total number of words that were new to the participant.

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The number of real and pseudo words sounded out correctly by the control group participants respectively ranged between 0 and 29 for real words, and between 0 and 30 for pseudo words. It also shows that the accuracy rate of the oral reading task on average was quite low, with the best performer managing to read 84.28 % of the whole words and the worst achieving 0 %. On average the participants were able to read less than half (about 46.77%) of the whole words correctly.

The number of real and pseudo words sounded out correctly by the spelling-based group participants respectively ranged between 10 and 33 for real words, and between 7 and 33 for pseudo words. Also the accuracy rate of the oral reading task on average was almost high, with the best performer managing to read 94.28 % of the whole words and the worst achieving 25.71 %. On average the participants were able to read more than half (about 71.66%) of the whole words correctly. There seems to be a correlation between the number of real words the participants sounded out correctly and their ability in sounding out pseudo words accurately, which is beyond the scope of this study.

Findings of the present study are consistent with the NRP's (2000) conducted meta-analyses of 38 studies with 66 different treatments which sought to answer several questions about the effects of systematic phonics instruction on growth in reading when compared to instruction that does not emphasize phonics. Findings provided solid support for the conclusion that systematic phonics instruction makes a bigger contribution to L1 children's growth in reading than alternative programs providing unsystematic or no phonics instruction. If the efficacy of phonics instruction is judged on whether the participants were able to independently sound out words accurately, the results of the present study here would suggest that phonics instruction has achieved a considerable success in attaining its proposed goal.

The second question investigated the participants' whole word spelling improvement through spelling-based approach. According to Tables 3 and 4, spelling-based phonics instruction does have an effect on improving young Iranian EFL learners' whole word spelling.

The results of whole word spelling test for the spelling-based group participants, demonstrated an increased understanding of how letters and sounds work within words, but in general, the control group participants performed poorly on the test. None of them were able to spell all the words correctly and on average they achieved only a 31.66 % accuracy rate. So it is logical to assume that for those learners who made use of their phonics knowledge similar patterns of development were found in their spelling test.

Research investigating the structure of the English spelling system demonstrates that this system is difficult for children to learn (Goswami, 2005; Zeigler & Goswami, 2005). English contains many mappings for spelling (graphemes) to sound (phonemes); for example, the letter 'c' can be pronounced as /k/ ('cat'), /s/ ('city').

According to Kuo (2011), it is logical to assume that if phonics were being used, application of phonics knowledge by the participants should allow them to spell words of any length, especially regular words. But the results of the study highlights that words which contain more one letter to one sound correspondence, or long vowel diphthongs, or variant vowels had a lesser accuracy rate than the regular words. So, this may be one of the potential deficiencies of phonics as learners who do apply phonics rules may still fail to obtain accurate pronunciation. Accuracy rate for each target word and spelling mistakes found in participants' record sheet shows that some of the misspellings are phonologically similar to the target words (e.g., 'tub' spelled 'tob'), such a results strongly suggest that, phonics was being used and also

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indicating that the knowledge of sound-letter correspondence alone is not sufficient in helping them cope with the spellings of many English words (Kuo, 2011). Consequently, learners may not possess knowledge of the precise pronunciation of all the phonemes of English and may have difficulty distinguishing between similar sounds in English that do not exist in their native language(s).

However, phonics may not be the major strategy being used when the participants faced longer words, it can be used to facilitate spelling. Accuracy rate especially for the more regular and shorter words could be the result of the application of phonics by the experimental group participants, it is also interesting to assume that phonics knowledge was applied in various degrees amongst different participants in dealing with different types of words. But, the control group learners may have developed different strategies to cope with spelling tasks. The way print words were taught (whole-word approach) may have compelled them to develop strength in visual strategies, illustrating that, as was shown by Connelly, Rhona, Johnston and Thompson (1999), strategy use is influenced by the type of instruction received.

Spelling-based phonics approach facilitated both the learners' reading and spelling skills, supporting the conclusion of the National Reading Panel (2000) that systematic phonics instruction contributed more than non-phonics instruction in helping kindergartners and 1st graders apply their knowledge of the alphabetic system to spell words.

5. Conclusion and Implications

The purpose of this study was a kind of a manifold. Firstly, it sought to implement systematic phonics instruction in an EFL context. Secondly, it tried to investigate the role which phonics plays in oral reading and word spelling

development of young EFL learners. The data from the current study revealed that the spelling-based phonics instruction can be effective for beginning EFL learners when it is systematic and explicit and implemented by regular teachers. Also it increased independence in decoding and spelling which created the possibility of reading and writing more widely and successfully for young EFL learners.

To round up the results obtained, this study shows that it is possible to teach children to read and write English as a foreign language through a phonics approach. No attempt was made to teach reading beyond the word recognition level, the approach was to teach the participants how to sound and blend letters in order to read unfamiliar words in order to establish a basis for fluent text reading. The children taught by the spelling-based phonics approach made significant developments in phonological awareness, real words reading, and pseudo-words reading in average short period of time (namely 25-30 sessions of instruction). In addition, their spelling skills were significantly enhanced. Therefore, the main findings of this research are in line with the results of most well-known meta-analysis conducted by National Reading Panel (2000) examining 38 studies with 66 different treatments in the realm of English as first language (L1).

This study could be extended by embedding it within a larger literacy context (e.g. first year of secondary school in Iran) throughout the school day. Observation of learners engaging in the process of memorizing word spelling or word reading tasks in a normal classroom context may produce more reliable information regarding this activity than was collected under the experimental conditions in this study. So, the findings cannot be rigorously generalized to any other situation. It is also recommended to extend the scope of the study from only focusing on oral reading task to a broader scope of a comprehension-

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oriented and balanced reading program. Since the major figures of whole language approach criticized systematic phonics instruction for the lack of attention to the reading comprehension, which they consider the main goal of reading instruction (Krashen, 2002). The benefit of making decoding and encoding a regular classroom practice is that over time phonics can become part of the learners' automatic strategic repertoire. Instead of a whole word presentation, teachers can provide phonemes of unknown words as they identify the relational unit and allow learners to sound the words out. Therefore, it is necessary for policy makers to set more clearly-defined objectives for phonics instruction from which the textbook compilers and teacher-educators can draw upon.

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