Using phonics to develop the emergent English literacy skills of Spanish learners

Sara Isabel Rendón-Romero
University of Córdoba
Macarena Navarro-Pablo
Eduardo García-Jiménez
University of Seville

Received: 21-11-2019 / Accepted: 21-9-2020
DOI: *https://doi.org/10.30827/portalin.v0i35.16876*
ISSN paper edition: 1697-7467, ISSN digital edition: 2695-8244

ABSTRACT: Phonics is well established in the English-speaking world, but to date it has been implemented to only a limited extent in contexts where English is a foreign language. This study aimed at evaluating the appropriateness of phonics for developing literacy skills of Spanish learners of English. An experimental pre-test – post-test design was used to determine the method's added value. The sample consisted of two equivalent groups in a Spanish bilingual state primary school, a control and a treatment group, where a phonic method was implemented by the researcher. Data were collected through tests measuring emergent Spanish and English literacy skills. Non-parametric tests and correlations were used for data analysis. The treatment group presented a significant improvement in phonological awareness, naming and letter and pseudo-word reading in the Spanish and English post-test. These 7-year-old children attained a level in English literacy skills equivalent to English children aged 5.8. The findings also suggested a positive transference of skills between English word reading and Spanish pseudo-word reading. The present study can serve as a possible proposal to help improve our Spanish bilingual programmes through the use of phonics in the early years in order to increase learners' English reading level.
Keywords: Phonics, biliteracy, Spanish, English, literacy methods.

El uso del método fónico para desarrollar la alfabetización emergente en inglés de alumnos españoles

RESUMEN: El método fónico está implantado en el mundo anglosajón, pero hasta ahora se ha aplicado de forma limitada en contextos donde el inglés es una lengua extranjera. El objetivo era evaluar la eficacia del método fónico para desarrollar habilidades lectoras en inglés en un colegio público bilingüe de Educación Primaria en España. Se utilizó un diseño experimental para determinar el valor añadido del método. La muestra la formaron dos grupos equivalentes, uno control y otro experimental, donde se implementó el método fónico por el investigador. Los datos recogidos sobre las habilidades de alfabetización bilingüe se analizaron a través de pruebas no paramétricas y correlaciones. El grupo experimental mostró una mejora mayor en conciencia fonológica, denominación y lectura de letras y pseudopalabras en español e inglés. Este alumnado de siete años alcanzó habilidades de alfabetización en inglés equivalente a niños nativos de 5,8 años. Se encontró una transferencia positiva entre la lectura de palabras en inglés y de pseudopalabras en español. Este estudio presenta importantes implicaciones para la enseñanza de la alfabetización temprana en inglés en contextos

donde el inglés no es la primera lengua, concretamente un mayor nivel de lectura en inglés del alumnado y la mejora de los programas bilingües.
Palabras claves: Fonética, alfabetización bilingüe, español, inglés, métodos de alfabetización.

1. Introduction

Phonological systems are acquired through the development of different phonological processes, such as phonological awareness (Mott, 2011). As Kennedy et al. (2012) mention, there are important aspects to be considered in the early literacy development, some of which can be essential for acquiring effective emergent literacy skills in two languages: phonological awareness and vocabulary are highlighted because they can also function as possible predictors for reading not only in the first but also in the second language. It has been suggested that the early development of phonological awareness can positively influence reading skills in the long term (Stanley, Petscher & Catts, 2018). Previous research has also mentioned that there are no negative effects when developing literacy skills in two languages (Bialystok, Luk & Kwa, 2005). Furthermore, Fonseca-Mora & Fernández-Corbacho (2017) point out that children should develop phonological awareness through early explicit teaching of the different letter sounds in the foreign language.

The relationship between phonology and the emergent literacy skills would depend on the moment, timing and type of instruction performed in the classroom (Pinto, Bigozzi, Vezzani, & Tarchi, 2016; Casillas & Goikoetxea, 2007; Márquez, 2013). In the same way, literacy methods used in the classroom play an important role in the development of phonological processes. Some studies indicate that the synthetic phonic method has a dynamic and efficient influence on the learning process (Cuetos, 2008; Jiménez & Ortiz, 2007). One reason is that pupils can directly acquire this phonological awareness to decode and read (Cuetos, 2008). The results of a study by Johnston & Watson (2005) also reveal that pupils achieved a level on literacy that was seven months ahead of their actual age with a high level of rhyming and phonological awareness. Thus, it may be suggested that a synthetic method could be appropriate for the development of these abilities.

Historically, applied linguists have sought to enhance the learning experience through the development of successive methods and approaches. From the Grammar-Translation Method to the Communicative Language Teaching, through alternative methods and post-communicative approaches, different aspects have been the focus for learning a second language (L2) (Richards & Rodgers, 2014). The case of English phonics appears to have received little attention in Spain. Conversely, phonics has been promoted through government policy as a method for developing first language (L1) early literacy throughout the English-speaking world since the 1980s. As stated in the Primary Framework for Literacy and Mathematics (2006, p. 25) for Year 1 pupils, children learn to 'spell new words using phonics as the prime approach'. Consequently, various publishers have generated related resources, such as *Jolly Phonics* (Lloyd & Wernham, 1998), *Letter and Sounds* (DfES, 2007) and *Read Write Inc* (Miskin, 2011). In addition, *THRASS* (Teaching Handwriting, Reading and Spelling Skills) has been included as an option which uses both synthetic and analytic phonic approaches. The present research was carried out implementing a phonic method with *Jolly Phonics* materials (Lloyd & Wernham, 1998), which are commonly used in many British schools nowadays.

2. English Phonics

This section includes a literature review concerning different aspects of the selected method. There is an introduction to the method and several studies providing findings about its implementation are presented. It was developed in 1975 in the Primary School of Woods Loke, Lowestoft (Suffolk, UK) where a group of pupils appeared to have some reading problems. By implementing this method, these pupils were instructed to first learn sounds associated with actions and, then, to relate them to letters. It has been reported that the Woods Loke's pupils learnt with much fluidity and their reading problems eventually disappeared (Lloyd & Wernham, 1998).

The method itself consists of teaching 42 English sounds during a period of nine weeks (a sound per day) when children are three or four years old. The authors also suggest that the implementation period could be longer depending on the contexts of the pupils. These sounds are classified into seven groups[1] depending on their difficulty for learning. Sounds are presented together with actions and then through stories, songs, flashcards, and games; visual resources, then, play an important role in the method. Pupils are also instructed to read problematic words or joining sounds into words. In that way, pupils work on the five skills presented by the method: identifying letter sounds in words, letter formation, blending (joining sounds to form words), phonological awareness and 'tricky' words (problematic words which do not follow the phonetic rules of the method and have to be learnt by heart or by using different strategies). An example of 'tricky' word is 'we'. Following the phonetic patterns given by this method, this word would be read as /we/. However, children are encouraged to find the 'tricky' part of the word and use different strategies in order to learn to pronounce it correctly.

Since 1975, several experimental studies involving this method have been carried out around the world, for teaching English not only as a first but also as a foreign language. Stuart (1999) considered a twelve-week implementation of the method for their pupils, whose results revealed that the treatment group presented superior levels of phonological awareness and significant differences were found in comparison to the control group, confirming the development of their reading skills. These positive results are also reinforced with similar studies (Ekpo, Udosen, Afangideh, Ekukinam & Ikorok, 2010; Inaja, Ubi & Anagbogu, 2012; Eshiet, 2016; Zaidi, Aftab, Naeem & Naheed, 2016; Nasrawi & Al-Jamal, 2017; Savage, Georgiou, Parrila & Maiorino, 2018; Dussling; 2018) in which the use of proper conditions and materials also seemed to improve pupils' reading skills (Ekpo et al., 2010). Bowyer-Crane et al. (2008) mention that pupils who participated in this particular study based on the teaching of phonology and reading significantly improve their phonological awareness and reading skills with a positive effect on their emergent literacy. The results

[1] Group 1: <s, a, t, i, p, n> /s/, /æ/, /t/, /ɪ/, /p/, /n/.
Group 2: /<k, e, h, r, m, d> /k/, /e/, /h/, /r/, /m/, /d/.
Group 3: <g, o,u, l, f, b> /g/, /ɒ/, /ʌ/, /l/, /f/, /b/.
Group 4: <ai, j, oa, ie, ee, or> /eɪ/, / ʤ /, /əʊ/, /aɪ/, /i:/, /o:/.
Group 5: <z, w, ng, v, short and long oo> /z/, /w/, /ŋ/, /v/, /ʊ/, /u:/.
Group 6: <y, x, ch, sh, voiced and unvoiced th> /j/, /ks/, /ʧ/, /ʃ/, /ð/, /θ/.
Group 7: <k, ou, oi, ue, er, ar> /k/, /aʊ/, /ɔɪ/, /ju:/, /ɜ:/, /a:/.

of a study carried out by Callinan & Van der Zee (2010) also reveal that after a nine-week implementation of the method, pupils were able to recognize more words and pseudo-words as well as individual phonemes.

Similarly, there have been different case studies published which reinforce these ideas. Smith (n.d.) from St. Michael School, Bristol, explains his need to change his non-phonic teaching method given that some reading problems were found in his pupils. He decided to implement a phonic method and, three months later, all his pupils improved their reading and writing skills. Wainwright (n.d.) (Reading and Special Needs Teacher) also indicates that her pupils were reading six months ahead of their chronological age. Another example is found in the study carried out by Johnston & Watson (2005), who mention that the participating pupils managed to read seven months ahead of their actual age with high improvement in rhyming and phonological awareness.

The phonic method provides an age reference scale which has been used in many studies and proved to be reliable. This scale was designed for native English children. Based on the test results provided by the method, this scale indicates the reading English age that pupils reach after one year of implementation of the method. Hence, with the use of this scale, it is possible to determine the difference between pupils' actual age and their reading English age.

Hannon (2001) argues that phonics can clearly facilitate the development of phonological awareness. However, Hannon (2001) and Campbell, Torr & Cologon (2011) consider that as phonics is focused on pre-reading skills, comprehension is not developed with the use of this type of approach in the early years. Reading comprehension is normally trained in subsequent levels but these authors consider it should be included in the early learning process. In addition, Stuart (2006) raises the question whether learning letter sounds before letter names could be beneficial or detrimental. It has been hypothesised that learning letter names could be less helpful since pupils can be confused by learning two aspects of the same symbol: a name and a sound. Jiménez & Artiles (2001) mention that it may be more efficient to teach phonemes before graphemes in terms of rapid association and decoding process. This type of synthetic method may also help children to acquire more autonomy and instruct them to decode any word or pseudo-word to be able to read on their own. On the other hand, if children learn the alphabet first, it could be used as prior knowledge and may help them understand some alternative sounds of a phoneme (Jolliffe & Waugh, 2012). There seems to be little consensus, then, on which one is the best method. A possible explanation for this may be that it depends more on how methods are implemented, the type of resources used and how teachers can adapt them to the children's needs and difficulties. Therefore, there are many issues about the use of phonics which have not been researched yet. For example, the type of activities which are better to practice with this method or the best options for evaluations of synthetic phonic programmes. (Bowey, 2000).

Furthermore, transference processes may seem to help create new cognitive structures and affect learning development. As Cummins (2001) mentions, transference can happen from an L1 to an L2, and Reyes (2006) adds that this transference can be bidirectional depending on the type of languages involved (opaque or transparent languages). Additionally, a study carried out by Montanari (2014) about bi-literacy development reveals that there is a transference from Italian decoding skills into English. Similarly, the study performed by Kremin, Arredondo, Hsu, Satterfield & Kovelman (2016), reports that 'children's exposure to

a phonologically transparent orthography enables the transfer of skills to their phonologically opaque language' (p. 2). In addition, Zhao, Dixon, Quiroz & Chen (2015) comment that phonological awareness learnt in Spanish could influence the reading of words in English and that English can also influence Spanish. Wawire & Kim (2018) also confirm that a positive benefit can be found in the bilingual learning process since the phonological awareness developed in a language can be transferred to the second language.

Despite many publications based on phonics, the present research seems to be the first experimental study carried out in Spain which implements a phonic method to foster emergent English literacy skills. It is important to mention that in Spain, English is the most studied L2 according to Eurostat, the statistical office of the European Union. Our study tries to address the recommendation for research suggested by Lázaro Ibarrola (2007) based on the use of English phonics in Spanish primary classrooms since, through it, Spanish children could find the English phonological system easier to acquire.

3. Method

3.1 Research questions

After presenting the literature review, it would seem necessary to analyse the appropriateness of phonics to develop emergent literacy skills in English and a possible transference among languages, being Spanish the mother tongue and English, the foreign language. Thus, the following research questions were raised:

1. Are there any differences between the level of pupils' emergent literacy skills in Spanish? Are there differences between the level of pupils' emergent literacy skills in English?
2. Are there any differences between the number of errors committed in *The English Reading Predictors Test* (see Appendix I) at the beginning and at the end of the study regarding the variables of Phonological Awareness and Naming and both treatment and control groups?
3. Are there correlations between Spanish and English Letter, Word and Pseudo-Word Reading?
4. Are there differences between pupils' actual age and their English reading age according to the Age Reference Scale for native English speakers provided by the phonic method chosen?

3.2 Research setting and sample

Participants were selected from a Spanish bilingual state primary school (Spanish-English). This school was chosen according to purposive sampling method, through a typical case strategy (Flick, 2014). The main reason is that this school was carrying out an early immersion bilingual programme, so it was not yet implementing a specific method for teaching English. In addition, it was found that teachers were quite receptive to experiment with new methodologies. Furthermore, there was no sociocultural bias since the school received students from different socioeconomic and cultural contexts.

Finally, the school to be chosen needed to have at least two groups in order to work with a treatment and a control group. The two groups of the school finally selected belonged to the first year of Primary Education (6-7-year-old children) formed by 26 students each. The 52 pupils were randomly assigned to each group of the first year of Primary Education (A and B).

3.3 Instruments and data collection

Three instruments were used to gather information about emergent Spanish and English literacy skills and the reading level achieved. All of them were validated based on the participating sample.

First, in order to be able to answer our first research question, the Spanish ALE1 test (Reading and Writing Learning Activities), designed by González & Cuetos (2008), was used as it is adapted to children between four and seven years old. The overall reliability of the test was statistically guaranteed with α=0.758. The test consisted of 3 sections: Phonological Awareness; Picture, Colour, Number, and Letter Naming; Speed Naming; and Word and Pseudo-Word Reading. This test was used with the purpose of comparing emergent Spanish literacy skills in both treatment and control groups.

Secondly, it was necessary to design an English test which included the content that the participating pupils had previously studied. So, the content covered during previous years was analysed and selected in order to create a new test. The test, called *English Reading Predictors Test,* was also designed with the same type of activities that the Spanish test included so that comparisons could be made between the two languages. The reliability of the test was α=0.81. This test comprised two sections: Phonological Awareness and Naming.

Thirdly, the chosen phonic method also provided a specific reading assessment which was carried out in the treatment group to determine the English reading level reached at the end of the intervention. The reliability of the test was α=0.91. It consisted of six phonological and reading activities. The first one was based on the pronunciation of individual English sounds (n=42). In the second one, pupils had to read 'tricky' words (n=11). The third one focused on the pronunciation of alternative sounds (n=16). The fourth exercise consisted of reading words and pseudo-words (n=26). The fifth activity (n=24) was based on recognizing the word or pseudo-word pronounced by one of the researchers of the study. The last one consisted of reading 3 sentences (total of words: n=16). However, it was not possible to use this test in the control group as they had not reached any reading level during the school year.

The ALE1 and *English Reading Predictors* tests were performed both as pre-tests and post-tests. When the implementation of the phonic method finished, a final assessment test focused on phonics was also carried out as post-test.

The study took place over the course of the school year 2017-2018, from September 2017, when pre-tests were carried out, to June 2018, when the implementation of the phonic method concluded and post-tests were performed. The implementation was carried out by one of the researchers. During the phonic lessons, the regular teacher was also in the classroom of the treatment group because she was in charge of these pupils. While observing, she could learn about the phonic method, which she could progressively implement towards the end of the course year. The phonic lessons carried out in the treatment group were recorded with

video cameras, a diary and an observation checklist completed by the regular teacher of the group so that the results could also be analysed by external researchers. Tests were carried out and scored by the external researchers in order to avoid any bias possibly caused by the fact that one of the researchers was also implementing the method in the treatment group.

In the case of the control group, the regular teacher was in charge of teaching lessons with the use of the non-phonic method which had been used until then in both groups. The researcher could observe the control group lessons in order to have enough information to compare the results from the two groups. The researcher carried out a participant observation, supporting the regular teacher, being part of the teachers team and working in a coordinated fashion in both the treatment and control groups.

3.4 Design and Procedure

An experimental pre-test - post-test design with equivalent control group was carried out in order to be able to compare results between a treatment group, with whom the phonic method was implemented by the researcher, and a control group, with whom a non-phonic method was used by their own teacher during the whole year, who had been teaching them for two years. As all pupils were underage, parents from both control and treatment groups were previously informed through a letter and a meeting and voluntarily signed the consent document to participate in the project before any observation was carried out. Families from the treatment group also signed that they had to participate and help children at home.

With the purpose of guaranteeing the equivalence between both treatment and control groups, a Student's t-test was performed. No statistically significant differences were found between both groups in the Spanish ALE1 test and the *English Reading Predictors Test*; therefore, the groups were considered equivalent. The independent variable was the phonic method and the dependent variable was the learning of English as an L2.

Intervention was performed in the treatment group by using phonics material, which included storybooks, reading books, flashcards, songs, and puppets, among others.

The method was implemented over the course of seven months (November-May), three days per week (45 minutes sessions). Pupils were taught one sound per session. Each lesson started with the introduction of one sound and one action which the children repeated. After this, the children listened to a story presented through storybooks which had pictures and words containing the sound being taught in the lesson. Later, the children were asked comprehension questions so that they could pronounce the words that were the focus of the current session. To continue, flashcards were used to practise the sound. When they saw the flashcards, they automatically said the sound and repeated the action. On the other side of the flashcard, dots represented the number of sounds contained in a word, so children could identify the position of a specific sound. After this, they listened to a song based on the sound and action of the current session. Some other group activities were performed depending on the time of the session. These activities could be games based on sounding out a word or identification of words which contained specific sounds. To conclude the lesson, a short assessment was carried out. This exercise consisted of 4 pictures, whose names were pronounced by the researcher. Once children listened to them, they had to cross out the picture whose name did not contain the sound being learnt during the session. After fifteen

days, when they learnt a whole group of sounds, another assessment was carried out based on different types of activities to measure the development of pupils in this group. In such a way it was possible to analyse the process of learning through two types of assessments.

The control group continued using the method initially programmed by the teacher. It was a non-phonic method based on materials provided by a publishing house. Activities were based on a book and a workbook and the study of vocabulary through flashcards. Children memorised vocabulary in each unit and did not use that vocabulary in the subsequent units.

4. Data Analysis

The data were analysed descriptively in order to know the different means and standard deviation of the Spanish (Phonological Awareness (PA), naming (N),speed naming (SN), letter reading (LR), word reading (WR), pseudo-word reading (PWR)) and English (PA, N) variables for both pre-test and post-tests and for both treatment and control groups. For this reason, the Levene's test for Equality of Variances and the Student's t-test and were carried out. Due to the fact that the sample size was less than 60, the Wilcoxon signed-rank test was also performed in order to contrast the results achieved by a paired samples t-test. Cohen›s *d* was used to calculate the effect size of the differences between the means of the treatment and control groups (Cohen, 1988). Due to the significant differences found between the two groups regarding PA and N in English, an analysis of errors motivated by previous research (Corder, 1967; Brown, 2007; Richards and Schmidt, 2010) was performed in order to identify the most frequent phonological errors. To take account of the differences between the control and the treatment group, the number of errors committed in the English test were scrutinized and examined for relevant information about the learning of vocabulary and the phonological awareness development achieved in each group.

In addition, bivariate correlations were carried out in order to measure the relations between Spanish (LR, WR, PWR) and English variables (SR, WR, PWR). The latter were taken from the phonics' final assessment so that these might be compared to ALE1.

Finally, pupils' actual age was compared to the reading age which pupils reached in English at the end of the study. The comparison was analysed by introducing the Age Reference Scale provided by the phonic method as a variable.

5. Findings and Discussion

Results are presented in the following order in order to answer our research questions: emergent Spanish literacy skills, emergent English literacy skills, errors committed in the *English Reading Predictors Test,* correlations between English and Spanish variables and comparison between pupils' actual age and the Age Reference Scale provided by the phonic method.

5.1. Emergent Spanish literacy skills

Before analysing emergent Spanish literacy skills, it was necessary to check that both treatment and control groups were initially homogeneous. No statistically significant differences were found between both groups in the pre-test in PA (t= -0.650; p= 0.522), N (t=

-0.882; p= 0.387), SN (t= 0.344; p= 0.734) and WR, PWR (t= -0.631; p= 0.531), assuming, in all cases, equality of variances according to the Levene's test.

Statistically significant differences were detected between both treatment and control groups in the post-test in PA (t= -1.603; p= 0.115) and N (t= -0.655; p= 0.516), SN (t= -0.577; p= 0.567) and WR, PWR (t= -3.032; p= 0.005), assuming equality of variances according to the Levene's test in all cases except for WR, PWR. The Wilcoxon test was also used to confirm these results. The differential growth was found to be higher in the treatment group in all variables except Naming and Speed Naming in Spanish. In addition, post-test PA was analysed by using Cohen's *d* (*d*= 0.44) in order to determine the effect size among both groups, which was small (s) in this case (0.22). In the case of post-test N (*d* = 1.18), it also revealed a small effect size (0.09). Regarding post-test SN (*d* = 0.16), it presented a small effect size as well (0.08). Finally, post-test WR, PWR (d = 0.86) represents a medium effect size (m) (0.40). This may be due to the fact that pupils evolved from a nonlexical route towards a lexical route (Cuetos, 2008). So, they were able to decode in a more automatized way and, then, read words and pseudowords.

The results for the emergent Spanish literacy skills reveal that the treatment group reached a higher level in phonological awareness and reading. The control group achieved higher means in the variables of N and SP. The reason as to why the treatment group attained higher means in the post-test, obtaining greater differential growths in phonological awareness and reading, could be due to the implementation of English phonics, whose results are presented below. It is possible, then, that there is confirmation with López-Cirugeda & López-Campillo (2016) since a phonic method could be a reinforcement for the Spanish literacy process. It is also possible to agree with Stanley, Petscher & Catts (2018) on the fact that phonological awareness can positively affect the reading development.

5.2. Emergent English literacy skills

By following the same procedure, the development of the emergent English literacy skills was analysed. Before the intervention with phonics, it was necessary to check that both treatment and control groups were also homogeneous in the English test. Considering the *English Reading Predictors Test* and according to the Levene's test, no statistically significant differences were detected between both groups in the pre-test in both variables PA (t= 0.175; p= 0.862) and N (t= -1.359; p= 0.181), assuming, in both cases, equality of variances. Statistically significant differences were found between both treatment and control groups in the post-test in variables PA (t= -3.130; p= 0.003) and N (t= -3.716; p= 0.001), assuming, in both cases, equality of variances according to the Levene's test. The Wilcoxon test was also used to confirm these results. Both English PA and N presented higher means and, so, higher differential growth in the treatment group, which received an implementation with phonics. In addition, the post-test PA was analysed by using Cohen's *d* (*d*= 0.83) in order to determine the effect size among both groups, which was small (s) in this case (0.38). In the case of post-test N (*d* = 1.04), it represented a medium effect size (m) (0.46).

These results suggest that phonics may help to develop English PA and N but, related to the findings presented above, it may also have some influence on the Spanish language. This aspect became clear when the mentioned emergent English literacy skills were ana-

lysed, which also revealed that the post-test means for English PA and N were higher in the treatment group. In the case of the control group, the improvement was almost non-existent. Families from both treatment and control groups were informed about the results obtained in the treatment group at the end of the research.

Our outcomes are in line with those of authors, such as Stuart (1999), Callinan & Van der Zee (2010), Ekpo et al. (2010), Inaja et al. (2012), Eshiet (2016), Zaidi et al. (2016), among others, whose studies reveal that all the treatment groups, using phonics, achieved higher and more significant means than the control groups. It is also possible to agree with Fonseca-Mora & Fernández-Corbacho (2017) on the fact that explicit teaching of sounds can help the development of phonological awareness.

The fact that the differential growth was almost non-existent for the English N variable in the control group (0.09) led us to specifically analyse the errors committed by both groups in this test.

5.3. Comparison of errors committed in the English Reading Predictors Pre-test and Post-test

Table 1 shows the errors committed by pupils from both treatment and control groups in the *English Reading Predictors* Pre-test and Post-test. On the left, all the items of the test are specified regarding PA and N. In all of them, errors decreased in the treatment group (*d*-). The Wilcoxon test was used to determine differences between the number of errors reduced (*d*-) in both treatment and control groups. Furthermore, statistically significant differences were found between them (Z=-2.99, p= 0.003).

The first part of the table shows the results of the PA errors committed by the pupils, where it is possible to notice that the most problematic errors were *Middle sound recognition /n/; Initial sound recognition /s/; Final sound recognition /t/* and *Final sound recognition /ɪ/* in pre-test for both treatment and control groups. However, in post-test these errors significantly decreased in the treatment group, more noticeably in *Initial sound recognition /s/*, which shows "0" mistakes as opposed to the control group with "5" mistakes, probably due to the emphasis on the phonetic work carried out during the implementation of the phonic method on specific aspects which are especially difficult for Spanish learners, as is the case of initial */s/*. In the case of the control group, the number of phonetic errors is still high, especially in the case of *Final sound recognition /t/* with 17 errors as opposed to 8 in the treatment group, probably due to the fact that phonetic aspects were not a focus of the lessons performed in the control group. It can therefore be assumed that most of the phonetic errors found among these pupils may be related to the fact that Spanish do not present combinations of two consonants at the beginning or at the end of a word, as in the cases of "snake" or "tent". Hence, the difficulty to pronounce them in English.

The second part of this table presents the results on naming. As this table shows, errors significantly decreased for the treatment group in the English post-test not only in the items related to PA but also to N. In fact, the number of errors decreased significantly in the nine words analysed. One reason for these outstanding results might be that these words were presented through the phonic method since the very beginning of the implementation, and adequately recycled along the year, which could have helped pupils acquire vocabulary consistently. A clear example can be observed with the word *SNAKE*, a word which

is specifically taught from the beginning of the implementation of the phonic method, and which appeared with 0 errors in the post-test of the treatment group. This means that the phonic method used is not only good for the development of phonological skills but also for the acquisition of vocabulary. In the case of the control group, errors were still high in general. In some cases, these errors decreased (13 cases), but in others (2 cases) they even increased, such as in Naming *SAD* or *NOSE*, or they maintained the same score (3 cases) (*d*-). This finding may be due to the fact that this vocabulary was taught at the beginning of the year and they might have forgotten it since, through the non-phonic method used in this classroom, vocabulary was not taught in a recycling way. In contrast, lists of vocabulary were normally presented in each unit and not worked again in the next units, then, the vocabulary was not fully acquired in the control group.

Table 1. Comparison of errors committed in The English Reading Predictors Pre-test and Post-test.

	Treatment		*d*-	Control		*d*-
	Sum of Errors Pre-test	Sum of Errors Post-test		Sum of Errors Pre-test	Sum of Errors Post-test	
Middle sound recognition /æ/	12	2	-10	13	1	-12
Middle sound recognition /ɪ/	15	6	-9	15	12	-3
Middle sound recognition /n/	20	6	-14	18	8	-10
Initial sound recognition /n/	13	1	-12	13	5	-8
Initial sound recognition /s/	17	0	-17	13	5	-8
Initial sound recognition /t/	15	2	-13	15	9	-6
Final sound recognition /t/	21	8	-13	18	17	-1
Final sound recognition /n/	12	4	-8	12	6	-6
Final sound recognition /ɪ/	17	12	-5	18	18	0
Naming SAD	15	12	-3	14	15	+1
Naming RAINY	13	11	-2	21	16	-5
Naming PENCIL	11	8	-3	11	9	-2
Naming NOSE	13	9	-4	14	15	+1
Naming SNAKE*	17	0	-17	22	20	-2
Naming TEN*	12	3	-9	13	2	-11
Naming FRUIT*	13	2	-11	15	15	0
Naming PEN	11	8	-3	13	13	0
Naming SUNNY / SUN*	8	2	-6	12	4	-8

*Statistically significant between groups $p<0.05$

Results regarding PA coincide with Mott's (2011) statements about combinations of /s+Consonant/, which exist in Spanish but not in the initial position. In addition, in some areas of Spain, such as Andalusia, final consonants could be more problematic, as in the case of [l, n, z, s, x, θ, b, g], which tend to be eliminated from their pronunciation as there is a tendency for consonant + vowel syllabic structure (Mott, 2011).

Our findings related to naming concurred with authors such as Pinto et al (2016), Casillas & Goikoetxea (2007) and Márquez (2013), who mentioned that the type of instruction is important for the development of emergent literacy skills. However, our outcomes contrast with the comprehension problems that Hannon (2001), Campbell, Torr & Cologon (2011) and López-Cirugeda &López-Campillo (2016) mention in their study about phonics, as our results reveal the fact that pupils acquire the meaning of the words that they are reading every day better. So, phonological awareness is developed together with early reading comprehension.

5.4. Correlations between English and Spanish variables

Correlations (See Table 2) were identified between the English (Sound Pronunciation (SP), WR and PWR) and Spanish variables (LR, WR, PWR). Although there were high correlations between some variables as English SP with English WR and PWR, the most significant one was between English WR and Spanish PWR, indicating some relation between both languages that could be due to the transference of knowledge among languages.

Table 2. Correlations between Spanish and English LR, WR, PWR.

	English SP	English WR	English PWR	Spanish LR	Spanish WR	Spanish PWR
English Sound Pronunciation	1	.892**	.776**	.350	.196	.264
English Word Reading		1	.826**	.444*	.215	.547**
English Pseudo-Word Reading			1	.090	.293	.310
Spanish Letter Reading				1	.389**	.472**
Spanish Word Reading					1	.815**
Spanish Pseudo-Word Reading						1

**Statistically significant $p<0.05$

The outcomes confirm that PA learnt in a language can help the development of the other language, enabling children to read words and pseudo-words. This fact corroborates what Cummins (2001), Mott (2011) and Wawire & Kim (2018) commented about the language transference and that this transference can be bidirectional between English and Spanish, as Reyes (2006) mentions. In addition, it may be possible to confirm that transference can happen between a transparent language, Spanish, and an opaque language, English, confirming what Montanari (2014) and Kremin et al. (2016) mentioned. This result also answers our

first research question already mentioned above in the results related to emergent Spanish literacy skills since through the implementation of phonics, pupils from the treatment group improved their PA and their ability to correctly read individual words not only in English but also in Spanish.

5.5. Comparison between pupils' actual age and the Age Reference Scale

The final test to assess phonics provided us with the Age Reference Scale. The average actual age of the pupils belonging to the treatment group was 7.1 years old at the end of the study. According to that Age Reference Scale, the English reading age reached by these Spanish pupils at the end of this research was 5.8 years old. Thus, there is only a difference of seventeen months between a Spanish and a native English child, which presents the productiveness of the method to learn English as a second language by Spanish children. It means that a phonic method could not only be dynamic and motivational inside the classroom but it helps to improve children's levels of reading at a relatively rapid pace. It is possible, then, to corroborate that phonics is productive for the development of English literacy skills as mentioned by Johnston & Watson (2005).

Finally, it is also possible to agree with several authors (Zaidi et al, 2016; Nasrawi & Al-Jamal, 2017; Savage, Georgiou, Parrila & Maiorino, 2018; Dussling; 2018) on the fact that the use of English phonics presents positive values and good results.

6. Conclusion, Limitations and Implications

The main aim of the study was to identify the appropriateness of an English phonic method in a bilingual Spanish state primary school. The results reveal that the use of phonics can be a beneficial alternative for teaching English literacy in the first year of Primary Education. The method helped the participating children to acquire a good level of English phonics in order to be able to decode and read any word or pseudo-word in English. It is also possible to mention that the method helped children acquire and retain a relatively high number of those words which were taught throughout the intervention, which contributed to the development of early reading comprehension in English. In the end, the children attained a level in English literacy skills equivalent to English children aged 5.8.

Another major finding was that the use of this method decreased most of the errors made by the children in the treatment group at the end of the study. In contrast, the number of errors remained the same, or even increased, in the control group. Thus, this study lays the groundwork for future research into error analysis as a way to 'obtain information on common difficulties in language learning, as an aid to teaching or in the preparation of teaching materials' (Richards and Schmidt, 2010, p. 201).

Phonics is well-established in English-speaking countries to teach the first language. Moreover, phonics has been used in some locations around the world to teach English literacy as a foreign language. In the case of Spain, English phonics has not been researched enough; nor has it been considered as a major content area in English lessons. This study suggests that it is appropriate to use English phonics in Spanish primary schools as the children in this study show a significant improvement of their English literacy skills and

started reading English in the first year of Primary Education (6-7 years old) to such an extent that the literacy skills learnt in English could be transferred to Spanish. Due to the good results, families from the control group asked to include the new method also to the English lessons of their children for the following year, something approved by the school.

It seems important to mention that neither the treatment group nor the control was using a phonic method to teach Spanish literacy. However, through the analysis of the emergent Spanish literacy skills, it is possible to notice that there was also a development of Spanish PA. Moreover, scores were more significant in the case of the treatment group. It seems to suggest that the use of English phonics helped to transfer emergent literacy skills, concretely PA, from English to Spanish, that is, from the L2 to the L1.

Regarding the limitations found along this study, we would mention the difficulty to use a method designed by and for English people in a Spanish context since some adaptations for the pupils are necessary. For example, some activities may not be so adequate for 5-6 year-old children considering the fact that they are pupils learning in a Spanish context with no English input outside the class. The study suggests the curricula in Spanish schools could include this method in their content. However, teachers would need to be able to adapt some activities to their pupils' circumstances, needs and difficulties. Another limitation was related to the time dedicated to English in Spanish schools, which is normally two hours and a half per week; this made it difficult to achieve all the method's objectives. Longer lessons would enable children to have more opportunities to practise and retain the knowledge better. Finally, another important limitation is related to the fact that one of the researchers was the teacher of the method in the treatment group. It was carried out in this way in order to be closer to the reality of the teaching-learning process inside the classroom; in addition, the authors of the phonic method used mention that 'the test should be administered by an adult who is familiar with the children' (McKurty & Ruttle, 2012, p. 6). Thus, in order to mitigate any possible bias, two external researchers were also part of the data collection and analysis.

Moreover, teacher training would be needed to understand not only phonics but also every aspect of the teaching of pronunciation to Spanish pupils. Further longitudinal research studies would be desirable to carry out with a wider sample in other locations of Spain or in other countries. Other future studies could be focused on the use of phonics on subsequent years in order to analyse pupils' development of reading and comprehension skills in the whole period of Primary Education.

The use of this method in our Spanish schools, then, may help improve pupils' emergent English literacy skills. It may also increase their early reading and comprehension level which seems to be a current concern by the Spanish government due to the low scores achieved by Spanish pupils in the last years as it can be read in different reports: Progress in International Reading Literacy Study (PIRLS) and the European Survey on Language Competences (ESLC). With this method pupils could improve their reading and comprehension levels in English which could also help them improve their skills in the other school subjects which are taught in English in Bilingual and CLIL (Content Language Integrated Learning) schools. It may also be beneficial to any third language being learnt. As Swain, Lapkin, Rowen & Hart (1990) mention language literacy can benefit the 'learning of other languages' (p. 78). Therefore, the present study would encourage the inclusion of phonics so that our Spanish bilingual programmes could improve.

7. References

Bowey, J.A. (2000). Recent developments in language acquisition and reading research: The phonological basis of children's reading difficulties. *The Australian Educational and Developmental Psychologist, 17* (1), 5-31.

Bowyer-Crane, C., Snowling, M., Duff, F., Fieldsend, E., Carroll, J., Miles, J., Götz, K. & Hulme, C. (2008). Improving early language and literacy skills: differential effects of an oral language versus a phonology with reading intervention. *Journal of Child Psychology and Psychiatry, 49* (4), 422-432. doi:10.1111/j.1469-7610.2007.01849.x

Bialystok, E.; Luk, G. & Kwan, E. (2005). Bilingualism, Biliteracy, and Learning to Read: Interactions Among Languages and Writing Systems. *Scientific Studies of Reading, 9* (1), 43-61. doi: 10.1207/s1532799xssr0901_4

Brown, H.D. (2007). *Principles of Language Learning and Teaching.* Pearson Education Limited.

Callinan, C. & Van der Zee, E. (2010). A comparative study of two methods of synthetic phonics instruction for learning how to read: Jolly Phonics and THRASS. *The Psychology of Education Review, 34* (1), 21-31.

Campbell, S., Torr, J. & Cologon, K. (2011). Ants, apples and the ABCs: The use of commercial phonics programmes in prior-to school children's services. *Journal of Early Childhood Literacy 12*, (4), 367–388. doi: 10.1177/1468798411417377

Casillas, A. & Goikoetxea, E. (2007). Sílaba, principio-rima y fonema como predictores de la lectura y la escritura tempranas. *Infancia y Aprendizaje, 30* (2), 245-259. doi: 10.1174/021037007780705184

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences*. 2nd Edition. Lawrence Erlbaum Associates.

Corder, S.P. (1981). *Error snalysis and interlanguage.* Oxford University Press.

Cuetos, F. (2008). El sistema de lectura: comprensión. In Cuetos, F. *Psicología de la lectura* (pp. 61-80). Madrid: Wolters Kluwer Educación.

Cummins, J. (2001). Language, power and pedagogy: Bilingual children in the crossfire. Multilingual Matters.

DfES (2007). *Letter and sounds: Principles and practice of high quality phonics*. London: DfES.

Dussling, T. M. (2018). Examining the effectiveness of a supplemental reading intervention on the early literacy skills of English language learners. *Literacy Research and Instruction, 57* (3), 276-284. doi: 10.1080/19388071.2018.1453898

Ekpo, M., Udosen, A.E., Afangideh, M.E., Ekukinam, T.U. & Ikorok, M.M. (2010). *Jolly Phonics strategy and the ESL pupils' reading development: a preliminary study*. Mid-term Conference. University of Ibadan, Ibadan, Oyo State. Recovered from http://jollylearning.co.uk/2011/03/24/research/

Eshiet, O.I. (2016). *Intervention for struggling readers*. Optimalpath Consulting Limited.

Flick, U. (2014). *The sage handbook of qualitative data analysis*. Sage.

Fonseca-Mora, M.C. & Fernández-Corbacho, A. (2017). Procesamiento fonológico y aprendizaje de la lectura en lengua extranjera. *Revista Española de Lingüística Aplicada, 30* (1), 1-33. doi: 10.1075/resla.30.1.07fon

González, R.M. & Cuetos, F. (2008). *ALE1: Actividades para el aprendizaje de la lectura y la escritura*. Cuaderno de evaluación inicial. Madrid, España: CEPE.

Hannon, P. (2001). *Reflecting on literacy in education.* Taylor & Francis e-Library.

Inaja, A., Ubi, I. & Anagbogu, E. (2012) *Report of second assessment pilot test conducted in Cross River State, Nigeria*. Universidad de Calabar, Nigeria. Recovered from http://jollylearning.co.uk/2011/03/24/research/

Jiménez, J. E. & Artiles, C. (2001). *Cómo prevenir y corregir las dificultades en el aprendizaje de la lectoescritura*. Síntesis.

Jiménez, J.E. & Ortiz, M.R. (2007). *Conciencia fonológica y aprendizaje de la lectura: Teoría, evaluación e intervención.* Síntesis.

Johnston, R. & Watson, J. (2005). *A seven year study of the effects of synthetic phonics teaching on reading and spelling attainment.* Edinburgh*:* Insight.

Jolliffe, W. & Waugh, D. (2012). *Teaching systematic synthetic phonics in primary schools*. London: Learning Matters.

Kennedy, E., Dunphy, E., Dwyer, B., Hayes, G., McPhillips, T., Marsh, J., O'Connor, M. & Shiel, G. (2012). *Literacy in early childhood and primary education (3-8 years).* National Council for Curriculum and Assessment.

Kremin, L.V., Arredondo, M.M., Hsu, L.S.J., Satterfield, T., & Kovelman, I. (2016). The effects of Spanish heritage language literacy on English reading for Spanish–English bilingual children in the US. *International Journal of Bilingual Education and Bilingualism, 0*, 1-15. doi: 10.1080/13670050.2016.1239692

Lázaro Ibarrola, A. (2007). Enseñanza de la lectura a través de phonics en el aula de Lengua Extranjera en Educación Primaria. *Porta Linguarum, 8*, 153-167.

López-Cirugeda, I. y López-Campillo, R.M. (2016). El método sistemático-sintético de lectoescritura Phonics como herramienta para la adquisición de la fonética inglesa. *Revista Fuentes, 18* (2), 183-195. doi: http://dx.doi.org/10.12795/revistafuentes. 2016.18.2.05

Lloyd, S. & Wernham, S. (1998). *The phonics handbook. A handbook for teaching reading, writing and spelling; in print letters*. (3rd edition). Jolly Learning.

Márquez, M. (2013). *Estrategias utilizadas en aulas bilingües en la enseñanza de la lectura en español*. (PhD). Universidad de Texas-Pan American. Recovered from http://0-search.proquest.com.fama.us.es/index.

McKurty, C. & Ruttle, K. (2012). *Jolly phonics reading assessment. Manual*. Jolly Learning Ltd.

Ministerio de Educación, Cultura y Deporte. (2012). *European study of linguistic competences ESLC. Spanish report.* Vol. I. Madrid: Secretaria General Técnica. Recovered from http://www.mecd.gob.es.

Ministerio de Educación, Cultura y Deporte. (2016). *Estudio internacional de progreso en comprensión lectora, Matemáticas y Ciencias. PIRLS-TIMS.* (Vol. I) Informe Español. Madrid, Spain: Instituto Nacional de Evaluación Educativa. Recovered from http://www.mecd.gob.es.

Miskin, R. (2011). *Read write Inc.: Phonics handbook*. Oxford University Press.

Montanari, S. (2014). A case study of bi-literacy development among children enrolled in an Italian–English dual language program in Southern California. *International Journal of Bilingual Education and Bilingualism, 17* (5), 509-525, doi: 10.1080/13670050.2013.833892

Mott, B. (2011). *English phonetics and phonology for Spanish speakers*. (2nd edition). Universitat de Barcelona, UBe: Publicacions i edicions

Nasrawi, A. & Al-Jamal, D. (2017). The effect of using jolly phonics on Jordanian first grade pupils' reading. *International Online Journal of Education and Teaching (IOJET), 4*, (2). 106-119.

Pinto, G., Bigozzi, L., Vezzani, C., & Tarchi, C. (2016). Emergent literacy and reading acquisition: a longitudinal study from kindergarten to primary school. *European Journal of Psychology of Education*, 1-17. doi: 10.1007/s10212-016-0314-9

Primary Framework for literacy and mathematics (2006). Department of Education. Primary National Strategy.

Reyes, I. (2006). Exploring connections between emergent biliteracy and bilingualism. Journal of Early Childhood Literacy, 6 (3), 267-292. doi: 10.1177/1468798406069801

Richards, J.C. & Rodgers, T.S. (2014). *Approaches and methods in language teaching*. (3rd edition). Cambridge University Press.

Richards, J.C. & Schmidt, R. (2010). *Longman dictionary of language teaching and applied linguistics. (4th edition)*. Pearson.

Savage, R., Georgiou, G., Parrila, R. & Maiorino, K. (2018). Preventative reading interventions teaching direct mapping of graphemes in texts and set-for-variability aid at-risk learners. *Scientific Studies of Reading, 22* (3), 225–247. doi: 10.1080/10888438.2018.1427753

Smith, P. (n.d.). *And why are all these children pretending to click castanets?* U.K.: Jolly Learning Ltd. Recovered from http://jollylearning.co.uk/2011/03/24/research/

Stanley, C.T., Petscher, Y. & Catts, H. (2018). A longitudinal investigation of direct and indirect links between reading skills in kindergarten and reading comprehension in tenth grade. *Reading and Writing, 31*, 133–153. doi: 10.1007/s11145-017-9777-6

Stuart, M. (1999). Getting ready for reading: Early phoneme awareness and phonics teaching improves reading and spelling in inner-city second language learners. *British Journal of Educational Psychology, 69*, 587-605.

Stuart, M. (2006). Learning to read: developing processes for recognizing, understanding and pronouncing written words. *London Review of Education, 4* (1), 19-29. doi: 10.1080/13603110600574330

Swain, M., Lapkin, S., Rowen, N. & Hart, D. (1990). The role of mother tongue literacy in third language learning. *Language, Culture and Curriculum, 3* (1), 65-81. doi: 10.1080/07908319009525073

Zaidi, S., Aftab, F., Naeem, H. & Naheed, S. (2016). Early teaching of English through synthetic phonics approach using jolly phonics program. In *Teaching of English in early years*. Research Society of Synthetic Phonics. Recovered from http://jollylearning.co.uk/2011/03/24/research/

Wainwright, T. (n.d.) *Easier reading, easier writing*. U.K.: Jolly Learning Ltd. Recovered from http://jollylearning.co.uk/2011/03/24/research/

Wawire, B. A. & Kim, Y. G. (2018) Cross-language transfer of phonological awareness and letter knowledge: Causal evidence and nature of transfer. *Scientific Studies of Reading, 22* (6), 443-461. doi: 10.1080/10888438.2018.1474882

Zhao, J., Dixon, L. Q., Quiroz, B., & Chen, S. (2015). The relationship between vocabulary and word reading among head start Spanish-English bilingual children. *Early Childhood Education Journal*, 45 (1), 27-34. doi: 10.1007/s10643-015-0764-8

8. Appendices

Appendix 1: *The English Reading Predictors Test*