

Enhancing Vocabulary Performance through Teaching International Phonetic Alphabet

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Abstract: *The International Phonetic Alphabet (IPA) is currently the most widespread phonetic symbol system. It has been widely discussed whether primary school teacher should use phonetic symbols to teach vocabulary pronunciation. Based on the previous studies on IPA teaching and characteristics of learners' background, it is suggested that IPA should be taught to primary school students at grade 5-6 in mainland China. The teaching of IPA can improve their English vocabulary performance in terms of correcting vocabulary pronunciation and better using vocabulary learning strategy.*

Keywords: *IPA teaching, Primary school student, Vocabulary performance*

1. Introduction

The core component of language learning is vocabulary (Erkayana & Drower, 2012) ^[5]. In other words, vocabulary learning plays an important role in language learning. While learning a word, learners may start with how to pronounce it. One way of teaching vocabulary pronunciation is to use phonetic symbols. The International Phonetic Alphabet (IPA), created in the late 19th century but regularly updated since then (IPA, 1999), is currently the most widespread phonetic symbol system. The segments (vowels and consonants) can be found in the IPA. It also has "an ample set of diacritics and (largely iconic) symbols for a wide range of suprasegmental features (e.g. superscript ^ˈ and subscript _ˌ stress marks to indicate primary and secondary stress respectively)" (Mompean & Fouz-González, 2021, p. 157) ^[10]. The majority of English vocabulary textbooks rely on the IPA if phonetic symbols are used. IPA learning can be viewed as a way for students to enhance English vocabulary performance, at least in terms of vocabulary pronunciation.

A few studies on IPA teaching to learners of English as foreign language or second language (EFL/ESL) have been conducted by previous researchers. They can be mainly categorized into: the advantage of teaching IPA to English learners, the recommended school grade of teaching IPA, the positive effect of L1 alphabetic system on IPA learning.

This paper will firstly review the previous studies on IPA teaching to EFL/ESL learners, and then select the students for IPA learning, and justify why they are suitable for learning IPA and list the advantages of IPA learning on the improvement of their vocabulary performance.

2. Literature review

2.1 The advantage of teaching IPA to EFL/ESL learners

IPA is the most widely used system of phonetic symbols and many researchers have mentioned the advantage of learning phonetic symbols on speech. The symbol and its represented sound or feature are in a one-to-one match, and phonetic notation represents speech in an accurate and systematic way (Mompean & Fouz-González, 2021) ^[10]. Schmidt (1995) mentioned the relationship between learning phonetic symbols and English language acquisition in his study ^[17]. Through associating words with acoustics, the sound of spoken language is well recorded in written phonetic transcription. When second language (L2) learners read written symbols, they can reproduce the sequences of speech sounds generated by the original speaker. In this way, all L2 learners, regardless of their first language (L1) background, can learn the correct pronunciation of the words in that target language. Likewise, according to Pennington (1996), the materialization of sounds via graphic representations (i.e., phonetic codes) is

a useful resource to help L2 learners to improve the quality of their pronunciation^[13]. Atkielski (2005) further mentioned that phonetic symbol is an exact representation of spoken English in a written record without ambiguity, redundancy or omission^[1]. After studying IPA teaching in the classes of experienced ESL teachers, he found that IPA teaching is easy to teach once ESL teachers have received some training and using IPA can help teach concepts that are related to the spoken language, thereby saving much time. Besides, Rajab (2013) also found that teaching IPA in the EFL classroom has many advantages^[16]. EFL students can improve their awareness of English Language sound features by visualizing codes that represent words as sounds.

In addition to speech, there are also some advantages of IPA in other aspects of L2 learning. Rajab (2013) conducted his study on teaching IPA code among 169 Saudi EFL students^[16]. One of the advantages is that students enhance their learning autonomy by looking up words and their corresponding pronunciations in the dictionaries. Jiang and Smith (2009) also conducted a survey on the strategy use of Chinese learners in memorizing English vocabulary^[7]. IPA greatly facilitates some Chinese learners in the memorization of vocabulary.

2.2 The recommended school grade of teaching IPA

As recommended by some researchers, EFL learners in primary school should start to learn IPA. Qadir and Rizwan (2020) studied Sindhi secondary school students in Pakistan, finding that learners who have learnt IPA symbols in private school scored better in the test of listening comprehension and spelling command, compared with learners who are unaware of IPA Symbols^[14]. Therefore, it is recommended that IPA should be taught in primary school. More specifically, Maskara (2013) suggested that IPA should be taught to higher grades of primary school in the Indian educational system^[11]. In the lower level of primary school, teachers should employ the rhymes, story, audio, and video of native speakers to teach children proper pronunciation, which inspire children to imitate native speakers' pronunciation. In addition, teachers should introduce the IPA learning at 8th grade, which is the highest grade in primary school in India. Likewise, Lipińska (2017) recommended that IPA learning should begin when students become much more conscious learners, who are more aware of language knowledge such as language rules^[8]. Young children can only acquire English phonetics by listening to stories, songs, nursery rhymes and playing games, while 11-13-year-old primary school learners are more aware of language knowledge. As indicated in his research, IPA can be taught to 11-13-year-old learners successfully.

2.3 Positive effect of L1 alphabetic system on IPA learning

Studies suggest that IPA learning may be easier for L2 learners whose L1 has an alphabetic system. Learners without alphabetic characters in their L1 background will find L2 phonetic symbol learning such as IPA more challenging (Read et al., 1986)^[15]. For those students who are involved in alphabetic characters in their L1 learning, they can foster pre-existing awareness of phonemes from L1 alphabetic literacy (Durgunog˘lu, 1998)^[3]. The developed phonemic awareness can be applied to language learning in the later phase. For example, in Mainland China, Pinyin orthographic representations firstly appear in L1 reading instruction. Using Roman symbols to represent spoken Chinese, pinyin is an alphabetic system with a transparent orthography (McDowell & Lorch, 2008)^[9]. There is evidence showing that it can foster the development of phonemic awareness; therefore, it can be applied in their later IPA learning (Read et al., 1986)^[15].

To conclude, it can be found that IPA teaching exerts positive effects on ESL/EFL learners in speech, learning autonomy and vocabulary memorization. As recommended in previous studies, IPA will be better to be taught at the higher grade of primary school. Finally, there is an implication that IPA learning may be easier for those learners who has an L1 alphabetic system.

3. Student background information

The chosen students for IPA learning are primary school students at grade 5 and 6 in mainland China. The grade at which schools start learning English are in grade 3 (9-10 years old). In primary school, students' learning level of English is categorized into Level 1 (grade 3-4) and Level 2 (grade 5-6). In accordance with the principle of shorter periods and higher frequency, the time allocation recommended is 4-5 times a week, 40 minutes every class each time for primary school students at grade 5-6 (Level 2). The vocabulary competence requirement for students at level 2 from National English Curriculum Standard (2011) is shown in the table 1 below.

Table 1: Vocabulary competence requirement of level 2 student

Vocabulary competence requirement	
vocabulary number	Acquire 400-500 words based on topics such as numbers, time, colors, food, weather, clothes etc.
Speaking	Be capable of pronouncing learned words based on the rules of spelling.
Reading	Be capable of recognizing learned words and phrases.
Listening	Be capable of understanding simple spoken English or recorded English
Writing	Be capable of writing captions for pictures or simple descriptions for objects.
Learning strategy	Be capable of using a simple English-Chinese dictionary designed for students

4. Enhancing vocabulary performance

In mainland China, students start to learn Pinyin in kindergarten. Due to their early exposure to Pinyin in their L1 learning, it can be assumed that Mainland Chinese EFL students have developed phonemic awareness skills in L1; therefore, it can be applied in their later IPA learning (Read et al., 1986) ^[15]. Therefore, L1 alphabet learning can help Level 2 students learn IPA at this stage.

In addition, students at Level 2 who were exposed to English earlier are more aware of language knowledge, which can be viewed as more conscious learners (Lipińska, 2017) ^[8]. More importantly, they can distinguish the international phonetic symbols and English letters without too much confusion. In Maskara's (2013) study and Lipińska's (2017) study, they all recommended teaching IPA to more conscious young learners-higher level in primary school ^[14]. The grade choice in this case is similar to their studies. Based on the above, it is proper to teach IPA at grade 5 and 6 in primary school.

IPA learning can enhance the performance of Level 2 students in vocabulary pronunciation and vocabulary learning strategy.

4.1 Vocabulary pronunciation

On the basis of IPA learning, students at Level 2 can pronounce learned words in accordance with the rules of spelling, which meet the National English Curriculum Standard's requirement of Level 2 students.

After learning IPA, students can record the phonetic transcription of the words and pronounce them correctly when looking at the symbols. Phonetic symbols and their represented sounds or features are in a one-to-one match, and speech is represented by phonetic notation accurately and systematically (Mompean & Fouz-González, 2021) ^[10]. In addition, students need to learn 400-500 words at Level 2. As they may forget the pronunciation of words taught in class, they need a way to note the symbol so as to remember the pronunciation. Without teaching IPA, most of them may select "pinyin" as symbols to note the pronunciation of the vocabulary, like thank you (san ke you, 三克油), ambulance (an bu neng si, 俺不能死), etc. "pinyin" is far away from the correct pronunciation of these words. Under such a circumstance, learners may easily swallow a single syllable or add some extra syllables to a word. According to the data of mandarin Chinese learning English presented by Eckman (1981), the addition of a schwa (ə) following a word-final voiced obstruent, like had [hæd/ hædə], big [big/ bigə] is common ^[4]. This may be because students pronounce words using "Pinyin", for example, big is noted as "bi ge, 笔哥". In addition, the word stress is always ignored. Once the students get into the habit of taking notes in "pinyin" and then pronouncing words, they pay less attention to stressed syllable in a word. Therefore, IPA learning is quite necessary for this stage. In addition to the representation of segments (i.e., vowels and consonants), IPA also has stress marks like superscript and subscript, denoting primary and secondary stress respectively (Mompean & Fouz-González, 2021) ^[10]. With the aid of IPA, students can pronounce the word stress correctly.

IPA can also help students distinguish similar sounds between words and then pronounce them correctly. Taking a minimal pair as an example, two words are different by only a single sound, which is often a meaning sound that may confuse English learners, such as the /e/ and /æ/ in bed and bad, or the

/ɪ/ and /i:/ in sit and seat. It is quite difficult to distinguish the differences between these sounds by listening alone. The visualization of difficult codes representing words will enable students to comprehend the elements of pronunciation in both visual and aural terms (Rajab, 2013) ^[16]. Therefore, IPA learning can increase the awareness of Level 2 students in English Language sound features, thereby assisting them to pronounce the error-prone words correctly.

It is crucial to teach correct pronunciation from the very beginning, especially under the guidance of the Critical Period Hypothesis (Birdsong, 1999) ^[2]. The period starts at the age of about two and finishes at puberty. Learning L2 after puberty should be much more difficult than before it if the critical period exists (Matsui, 2000) ^[12]. Since students at grade 5-6 are still at a critical stage, it is important to use IPA to help them form correct vocabulary pronunciation so as to avoid negative effects on further English learning.

4.2 Vocabulary learning strategy

IPA learning can assist students at grade 5 and 6 to adopt better vocabulary learning strategies with respect to vocabulary learning autonomy and vocabulary memorization.

According to the National English Curriculum Standard, Level 2 students should be able to use a simple English-Chinese dictionary. After learning IPA, they can look up words and their corresponding pronunciation in the dictionaries on their own, which enhance vocabulary learning autonomy.

Level 2 students are required to memorize 400 to 500 words; therefore, good vocabulary memorization skills should be taken. IPA is of great help to vocabulary memorization. There is always a relation of phonetic symbols and letters or letter combinations (Jiang & Smith, 2009) ^[7]. For example, [æ] is related to “a” and [θ] is related to “th”. When students pronounce a word, they can always connect its phonetic symbol to the specific letters. In this case, the relationship between pronunciation and spelling is always enhanced. As a result, students will remember the spelling of words more easily.

5. Conclusion

As the most popular phonetic symbols system, teaching IPA to ESL/EFL learners has been discussed a lot by researchers from various perspectives, including the advantages of teaching IPA to L2 learners, the recommended grade of teaching IPA, and the positive effect of L1 alphabetic system on IPA learning. Based on these previous studies and characteristics of learners’ backgrounds, it is suggested that IPA should be taught to primary school students at grade 5-6 in mainland China. Level 2 students in mainland China can learn IPA more easily through the “pinyin” learning in L1 alphabetic system. Students at grade 5-6, who are more conscious learners of English learning, are also most suitable to learn IPA. The teaching of IPA can improve their English vocabulary performance in terms of correcting vocabulary pronunciation and better using vocabulary learning strategy. In the process of pronouncing words correctly, IPA presents the written record of symbols to match the sound to help students to distinguish some similar sounds with visual aids. With respect to vocabulary learning strategy, IPA learning cultivates the learning autonomy and vocabulary memorization skills of students.

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