



## Phonological Knowledge in English Language Centre Teachers and Learning Materials: A Case Study

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**Abstract:** Teaching phonics to English foreign language learners could be challenging due to phonological differences between the first and foreign languages. Teachers are expected to master phonological aspects, especially in an English language center where English is taught to students at an early age. This research aimed to investigate the phonological knowledge of teachers at the English language center, the difficulties they encountered in phonology, and phonology in learning materials. This research employed a qualitative case study design, including phonological tests, interviews, and content analysis. The current study found that the participants' phonological knowledge was sufficient a focus on the phonological aspects despite the limitations of some sounds that hindered the pronunciation. The phonology difficulties include fricatives, affricates, certain vowel distinctions, and allomorph pronunciation. Another finding is that the materials that were delivered deal with phonological knowledge that is supported by word recognition strategies. This research's findings contribute to the importance of phonological aspects for teachers and learning materials that can be improved to enhance phonic or phonology teaching.



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## INTRODUCTION

Phonology knowledge is a major contributor to students' language acquisition. Understanding its aspects enables teachers to understand how to teach and apply it in spoken interaction. Maharani et al. (2023) suggested that phonology explores the patterns and relationships among these symbolic sounds, helping us understand the underlying structures and rules that shape language. The knowledge of phonology has a great impact not only on pronunciation but also on reading and spelling. Maharani et al. (2023) added that learners with a good level of phonological awareness will be able to detect the segmentations of words based on how they sound in speech-language, which supports language learners' ability to do word spelling at the beginning of reading acquisition.

In recent years, studies of phonology awareness have impacted many fields in children's speaking and reading development, thus teachers' proficiency in phonology has a great impact on the learners. The concept of phonological awareness happens when the

speech can be segmented into words, syllables, and phonemes (Cárnio et al., 2017). Phonological awareness cannot be separated from phonemic awareness. As cited in Milankov et al. (2021), phonological awareness involves the auditory and oral manipulation of sounds, whereas phonemic awareness refers to the ability to understand the relationship between the written symbols and letters that represent the sounds in spoken words. Maharani et al. (2023) mentioned the importance of phonological knowledge for it helps researchers analyze the unique characteristics of languages, identify language-specific phonological patterns, and compare them across different linguistic communities. Despite the significance of phonology as linguistics fundamental aspect of linguistics, research on the phonological knowledge needed for teachers needs to be explored. Hence, this article focuses on its knowledge of teachers and how far phonology is taught in the learning process.

The phonological system of one language has distinctive features from another one that could hinder orthography and pronunciation. It is proven that the lack of phonological development for non-native speakers' language skills affects learners' proficiency. Several numbers of studies have reported the issue underlying phonological awareness. Andyani (2021) showed that Indonesian students have problems with English fricatives and prefer to replace the sounds using different substitutes. Another study conducted by Astuty (2022) discovered that eight consonants were mispronounced by Buginese students, which are consonants /f/, /v/, /ɱ/, /z/, /ʃ/, /ʒ/, /dʒ/, and /ð/. Milankov et. al (2021) found that students with reading difficulties obtained low scores in phonological awareness within each subscale compared to students who do not have reading difficulties. Ambalegin and Hulu (2019) mentioned the factors of phonological interference for EFL learners which are: the mother tongue interference (native language), the differences between Indonesian and English sound systems (phonetic ability), the educational background, and the environmental background (amount of exposure).

The role of phonology in teaching could help language skills, especially in reading and spoken skills. As mentioned by Milledge and Blythe (2019), orthography and phonology are significant identifications for beginner and skilled readers. Pennington and Rogerson-Revell (2019) stated that second language learners need to reconfigure their auditory space to differentiate one phoneme and its contextual variants from another as a new cue for pronunciation which is different from their mother tongue. Another study conducted by Meade (2019) found that the availability of phonology improves visual word learning, indicating that it can facilitate learning across modalities. Phonological awareness is crucial for sublexical word recognition processes making it a precursor skill to successful reading (Ihász, et al, 2023).

Understanding phonology for teaching is beneficial to ensure that they understand the smallest concern in their students' proficiency, as this feature affects students' proficiency. However, according to Couper (2016), some teachers lack initial training and knowledge of phonology, which leads to uncertainty in teaching pronunciation. The survey conducted by Nicholson and McIntosh (2019) showed that undergraduate teacher trainees with higher phonological knowledge had higher levels of external teaching self-efficacy in that they tended to oppose the idea external variables in their control made it difficult for a few pupils to succeed. Apart from teachers' proficiency, learning materials also cater to the

phonological needs of students. Unfortunately, from the study conducted by Aini et al. (2023) phonology learning materials still need to be improved.

Regardless of the significant need for phonology teaching, teachers' phonological awareness and phonology learning materials need to be studied further. While the existing studies regarding learners' phonological awareness have been established, phonological awareness in teachers and learning materials is still limited. These findings of the existing studies raise a question about English language centre teachers' phonological awareness and the extent of their phonological knowledge, for the learners' phonological skills should be addressed in the learning process. Hence, this study is intended to fill the knowledge gap regarding phonological awareness for teachers and the learning materials that support phonology. This paper attempts to investigate teachers' phonological awareness in one English language centre. The objectives of this research are to investigate the phonological awareness of English language centre teachers, the difficulties the teachers face dealing with phonology, and how far phonology has been taught in learning materials. Therefore, the research questions for this study were formulated as follows:

1. To what extent is the phonological awareness of the English language centre teachers?
2. What is the difficulty the teachers face in dealing with phonology?
3. To what extent has phonology been taught in the English language centre learning materials?

Thus, this study provides a great knowledge opportunity to understand non-native English teachers' phonological awareness, their difficulties in phonology, and the learning materials they dealt with. As phonology is an important aspect of linguistics, its implications accommodate readers and teachers to understand how important sound-producing influences one's proficiency. Due to practical and time constraints, this paper cannot provide a comprehensive observation of the students during lessons that deal with phonology.

## **THEORETICAL SUPPORT**

The concept of phonetics and phonology deals with how sounds are produced, perceived, and combined into specific patterns (Roach, 2009; Carr, 2013; McMahan, 2020). In phonetics and phonology, the smallest unit of sound is called a phoneme, consisting of vowels and consonants. Vowels are sounds in which there is no obstruction to airflow as it passes from the larynx to the lips, while in consonants, the airflow is obstructed. Vowels can be produced as their own or followed by consonants, while in consonants airstream involves the passage of air from the lungs through oral or nasal cavities. With the stream of air resulting in the vibration of the vocal folds, you can tell whether the sound is voiced (vibrated) or voiceless (non-vibrated). Syllables are the phonological units that restrict the sequences of phonemes which consist of the onset and rhyme.

Table 1 will summarise the details of phonological aspects from Roach (2009), Carr (2013), and McMahan (2020):

**Table 1. Phonetic and phonological aspects ( Roach, 2009; Carr, 2013; McMahon, 2020)**

Consonants	Place of articulation	<ul style="list-style-type: none"> <li>● Glottal: Produced by the glottis</li> <li>● Bilabial: Produced by two lips</li> <li>● Labio-dental: Produced by the upper teeth and lower lips</li> <li>● Dental: Produced by the tongue behind or protruding between the teeth</li> <li>● Palato-alveolar: Produced behind alveolar ridge</li> <li>● Palatal: Produced by the roof of the mouth</li> <li>● Velar: Produced by the soft palate or velum</li> </ul>
	Manner of articulation	<ul style="list-style-type: none"> <li>● Stops: stoppage of the airflow or followed by the airflow (plosives)</li> <li>● Fricatives: restricted air flow by the friction</li> <li>● Affricatives: the combination of stops and fricatives that make one sound</li> <li>● Nasals: the air flows through the nasal cavity</li> <li>● Approximant liquid: the tongue makes movements to the alveolar or post-alveolar ridge</li> <li>● Approximant glide: the tongue makes movements to the velar but is constricted by the lips (labial-velar)</li> </ul>
Vowels	<b>High</b> or <b>low</b> dimension: the height of the body of the tongue during the articulation of a vowel.	
	<b>The front, central, and back</b> dimensions in where the body of the tongue lies.	
	<b>Rounded</b> or <b>unrounded</b> : the shape of the lips.	
	<b>Diphthongs</b> : Change of position of the articulators during their production, and thus a change in the vowel quality produced.	
Syllables	Onset	Consonants preceding the center of the syllable.
	Nucleus or Peak	The vowels in the word.
	Coda	The consonants followed the vowels.

In this study, morphophonemics or morphophonology is included because its implication in phonology is significant, and understanding the concept would make it easier to pronounce. Allomorphs are morphophonemics, meaning morphemes have two or more different pronunciations (Carstairs-McCarthy, 2002). This addition of suffixes affects the words' meaning and how they sound (McCahon, 2020). Common morphophonemics that can be encountered are the inflectional -ed in the past tense and -s in plural or singular verbs.

## METHOD

A mixed-method case study is conducted to answer the research questions as means of method that could justify the theoretical and analytical phenomenon. According to Creswell & Creswell (2018), a case-study approach was adopted to allow deeper insight into investigating the research problems. Case studies are a design of inquiry found in many fields, especially evaluation, in which the researcher develops an in-depth analysis of a case, often a program, event, activity, process, or one or more individuals. Furthermore, Cohen et al. (2007) explained that case studies can establish cause and effect; indeed one of their strengths is that they observe effects in real contexts, recognizing that context is a powerful determinant of both causes and effects. Specifically, this study focuses on a single case design case study with an embedded approach. Depoy & Gitlin (2016) described a single

case study for a single system or subject of research that can be treated with a holistic (a single global phenomenon) or an embedded approach (a Sub-unit of the case). In this study, a single case of one English language centre, Eye Level English course, was chosen as the case of the study; however, the researcher only focused on phonological knowledge and phonetic and phonology learning materials. The limitation of this approach is that this study is conducted in one particular English course institution, and the findings might not be applicable in different settings. Nonetheless, this study shall give an insight into the focus that could help studies with the same focus.

The research was conducted through online interviews and at Eye Level Learning Center Pluit, which is an English course that came from a South Korean educational brand, Daekyo. The participants were three English teachers (2 current teachers & 1 former teacher) from Eye Level Pluit. The three participants also majored in an English education study program and enrolled in linguistics classes at their respective universities.

**Table 2. Participants' identities and background**

Participants	Experiences
Teacher 1 (former teacher)	5 years at Eye Level and currently 1 year at another institution.
Teacher 2 (current teacher)	9 months at Eye Level and 6 years of experience at a public high school
Teacher 3 (current teacher)	A fresh graduate, 5 months at Eye Level, and 4 months of experience at another institution.

The delivered instruments utilized both qualitative and quantitative approaches, which resulted in then being triangulated. Östlund, et al. (2011) pointed out that methodological triangulation could be carried out to identify both qualitative and quantitative data, should the consistency and accuracy of the instruments suffice the required data. In this study, all participants were asked to complete the phonological test as a protocol to assess their knowledge of phonology as a means to measure the extent of their awareness. Then, for a second research question, a semi-structured interview was delivered as an additional protocol to obtain in-depth information from the participants regarding their phonological awareness. Apart from the teachers, another data source also the learning materials provided by the institution to see how far phonological knowledge has been delivered in the institution. A content analysis is implemented to find out the extent of phonological knowledge in the learning materials. Table 3 is the framework for the instruments:

**Table 3. Phonological awareness framework**

Phonological awareness (Roach, 2009; Carr, 2013; McMahon, 2020)	
<b>Syllables</b>	Phonological units restrict the sequences of phonemes which consist of the onset and rhymes.
• <b>Onset</b>	Consonants preceding the center of the syllable.
• <b>Rhymes</b>	The vowels and coda (the consonants after the vowels)
<b>Phonemes</b>	The smallest sounds
• <b>Vowels</b>	Unobstructed airflow, which makes a sound
• <b>Consonants</b>	Obstructed airflow, which makes a sound
<b>Alliteration</b>	The same beginning sounds
<b>Rhymes</b>	The ending sounds that have the same nucleus and coda
<b>Inflectional (morphophonemic)</b>	The interaction between morphology and phonology in the inflectional suffix for plural and past tense

Data collection procedure and analysis:

To answer the first question, the researcher delivered phonological tests that was developed from the phonological awareness framework. The participants classified the words based in their onset, rhymes, initial sound, medial sound, and final sound. Then they try to provide the words with the same alliteration and rhymes. The tests were recorded and the answers were transcribed phonemically to analyze the errors encountered in the test based on the IPA however, the researcher did not limit the transcription of the answers given either in British English or American English. The errors then categorized based on the segmental mispronunciation through the accuracy percentages by the researcher based on the IPA transcription for the intra-rater reliability. To answer the second question, an interview regarding the participants' phonological knowledge was delivered and then transcribed to be analyzed to find their difficulty in phonology. The data were then tabulated under the topic categories which were later summarized. Last, to answer the last question, content analysis is implemented to see how far phonology is taught in the institution. The results were then analyzed based on the presence of the data in the learning materials. All the data that had been collected and analyzed will be further explained in the findings and discussions to conclude the interconnectedness of the phonological awareness of the teachers, their difficulties, and learning materials that contain phonology learning.

## RESULT AND DISCUSSION

Phonological awareness gives a great depth of understanding of how sounds work. Mastering phonology enables teachers to deliver how pronunciation, reading, and spelling work. As the finding reveals all the phonological aspects covered were in line with the concept of phonological awareness by Cárnio et al. (2017) where the speech can be segmented into words, syllables, and phonemes. The test deals with the words that were classified based on their onset, rhymes of the syllables, initial phoneme, medial phoneme, final phoneme, alliteration, and rhymes. This test was used to analyse the teachers' phonological knowledge and awareness which can answer the first question of the study. The chosen words are one-syllable words that cover most English phonetics and are a practical tool to separate the initial, medial, and final sounds. Unfortunately, the test could not cover [ʒ] sounds for it mostly appears in multisyllabic words.

It is apparent from Table 2 that very few mistakes could be found in the test. There are 20 words and when it is analyzed there are a total of 140 classifications needed to be filled. Each participant was tested at different times and the tests took around 20-30 minutes to complete. Out of 140 classifications, the errors that were found are displayed in Table 4 below :

**Table 4. Errors in the Phonology Awareness Test given**

Awareness	Teacher 1 (93% accuracy)	Teacher 2 (95% accuracy)	Teacher 3 (90% accuracy)
Onset	-	-	● [θ] in thy
Rhymes (nucleus + coda)	● [ɔɪz] in voice ● [eɪr] in chair ● [ərt] in quart	● [ɔɪz] in voice ● [eɪr] in chair	● [ɔɪz] in voice ● [a:t] in quart
Initial phoneme	-	-	● [θ] in thy
Medial phoneme	● [eɪ] in chair ● [əɪ] in quart	● [ɪ] in sheep* ● [eɪ] in chair	● [a:r] in quart
Final phoneme	● [z] in voice	● [z] in voice	● [z] in voice ● [mb] in thumb
Alliteration	● Sun* for [ʃ] onset	-	● Get for [dʒ] onset
Rhymes	● Noise for [ɔɪs] rhymes ● Cord for [ɜ:d] rhymes ● No alliteration for [ɔ:t]	● Noise for [ɔɪs] rhymes ● No alliteration for [ɔ:t]	● Mum for [em] rhymes ● Tortoise for [ɔɪs] rhymes ● No alliteration for [ʌm] ● No alliteration for [ʌs] ● Afford for [ɜ:d] ● Art for [ɔ:t]

\* Participant pronounced it correctly in other aspect

As shown in Table 4, the consonant errors found are in the dental fricative [θ] [ð], alveolar fricative [s] [z], and post-alveolar fricative [ʃ]. As the three participants are non-native English teachers some of these sounds ([θ] [ð] [ʃ]) are unavailable in their native language phonemes. Although some words might sound similar, the manner and place of articulations of the sounds are different. These findings were supported by the previous study from Andi-Pallawa & Alam (2013) that found that the group of sounds that do not exist in the Bahasa Indonesia sound systems are / æ, ʌ, ɜ, v, θ, ð / and the group with different phonetic features are /b, d, g, z, s, ʃ, dʒ/. As for the vowels, the participants have trouble with the r-controlled vowels thus some mistook the [eə] sound as in the word 'chair', [ɔ:t] as in the word 'quart', [ɜ:d] as in the word 'word'. Andyani (2022) also supported these findings as it was mentioned that difficulties Indonesian learners had in producing fricative sounds (from the most to the least problematic) were: /v/, /ʃ/, /ð/, /θ/, /z/, /ʒ/, /f/, and /s/.

As explained in McCahon (2012) the centering diphthongs that end with [r] and in British English, the [r] ending sound is omitted. From the results, the participants pronounce them almost in British English but instead of [eə] they produce [eɪ] sounds. As in other r-controlled vowels, it was affected by the spelling as some groups of letters could have different sounds. Some of the pronunciations in English are not constant. From the test given the three participants made the same mistakes when they needed to provide rhyming words for noise [ɔɪz] and they mistook it for voice [ɔɪs]. On the other hand, the word house [aʊs] does not rhyme with noise [ɔɪz] despite having the same ending -the spelling.

Interestingly, the three teachers were capable of scoring an accuracy of 90% and above in statistics from the number of errors from the 140 criteria with the errors the phonetic articulatory that was affected by their mother languages. The comparison of the results could also be affected by the teaching experience of the three participants as they major in English Education for their bachelors. Unfortunately, mastering accurate phonological knowledge

for EFL learner was a challenge especially with phonology distinction for the target language. As mentioned in the literature review, phonological awareness deals with syllables as in onset, rime (nucleus and coda), and phoneme knowledge. The result of the test answers the first research question that they are aware of and understand how sounds work. They understood how to separate the words based on their syllables, separate the phonemes of the initial, medial, and final sounds, and come up with words with the same beginning sounds (alliteration) and rhymes. The results reflected their previous knowledge on phonology mastery and experience in teaching phonics for the learning centre, as can be inferred that the teachers with more experience tend to be more at ease to provide words with the rhyming sounds as they were more adaptive to blended vowels. In spite of that, the teachers showed ample understanding in phonology and they were able to transfer the knowledge in their teaching.

To answer the second research question, semi-structured interviews were delivered to grasp their knowledge of phonology and the difficulties they face dealing with it. Note that the results of the test in Table 2 help to synthesize the results of this interview. The first three questions focus on their perception of their phonological skills, the frequency of phonological materials or assessments delivered in teaching, and the phonological aspects that they teach. The rest of the nine questions deal with their knowledge and difficulties in phonology. The results of the interview would be identify in terms of the teacher's phonological difficulties and how their previous teaching experience affect them. The summary results of the interviews' transcription were tabulated in Table 5 below:

**Table 5. Results of the interview tabulation**

Focus	Teacher 1	Teacher 2	Teacher 3
Self-rating of phonological knowledge	7/10	5/10	7/10
The frequency of dealing with phonology materials	Used to deal with it at Eye Level on workdays. Now, only deal with phonology when pronunciation correction is needed.	Did not deal with phonology at public school for 6 years. Now, deal with it on workdays.	On workdays at the workplace.
Phonological materials that have been dealt with recently	Currently focused on pronunciation with a phonemic transcription	Phonemes (initial, middle, and ending), consonants (including digraphs, and, blended consonants), allomorph, and inflectional.	Phonemes (initial, middle, and ending), consonants (including digraphs and blended consonants).
Cognition of phonemic or phonology transcription	Familiar but is not sure to tell the difference spontaneously	Familiar and can tell the difference	Unfamiliar but it was learnt at the university
Able to differ long and short vowels	Able to differ	Able to differ	Able to differ
Difficulty in pronouncing vowels	None	Find difficulties in tongue placement and mouth rounding. The difficult vowels are [ɑ:], [ɜ:], [ɔ:], and [æ]	Find difficulties in pronouncing [æ] and [e] as they sound almost similar.
Difficulty in diphthongs and triphthongs	None	None in a condition that it is commonly	Learnt about them but could not recall

Focus	Teacher 1	Teacher 2	Teacher 3
		used words.	
Able to differ voiced and voiceless consonants	Find it difficult to differ	Able to differ	Able to differ
Difficulty in pronouncing consonants	None	Find difficulties in pronouncing [θ], [ð] [dʒ], [ʃ]	Find difficulty in reading the phonemic transcriptions, and pronouncing [d] and [ð].
Difficulty in consonant blends	None	None	Find difficulty in the words that have [d] and [ð].
Difficulty in distinguishing inflectional sounds /s/ and /z/	None	Find it difficult	Find it difficult
Difficulty in distinguishing inflectional sounds /d/, /t/, and /id/ in past participle.	None	None	None

Of the three participants, two rated themselves as good in their awareness while the one rated herself as average. Surprisingly, that participant scores the highest in the previous phonological test. In response to this result, it seems the previous working experience of the second participant in a public high school affected her confidence in phonological aspects as it was mentioned that for the last 6-year experience, the participant did not apply phonology in her teaching, and only the last 9 months she experiences teaching phonology as routine. This finding alone showed the different need of phonological knowledge in the learning materials. Compare to the rigorous step of learning in the learning centre that focuses on the proficiency by steps, phonological learning in school environment is often overlooked due to the limit of time and expected learning goal. As a result, it might affect the teachers' confidence in their own phonological awareness despite them having good concept of it.

All of the participants enrolled in English education majors for their bachelor's degrees and had linguistics programs during their studies. They know about phonological or phonemic transcription, although one participant admitted she had trouble with the phonetic symbols. Unusually, that participant could do the test with 90% accuracy. This result contradicts the study from Matuate (2024) which stated that phonetic transcription can help students pronounce words more accurately after doing the study. Most of the cases during teaching they are unable to verify new words pronunciation in real time, and in this case they use their schemata regarding some of the letter (vowel or consonant) combination sounding. Although it is mostly intuitive most of the time, their proficiency and active activities (receptive and productive skills) in English accommodate their metalinguistic knowledge.

The results also stated the difficulties that they found in phonology are producing [ɑ:], [ɜ:], [ɔ:], and [æ] vowels, [ɪ], [ð] [dʒ], [ʃ] consonants, and on morphophonemic case inflectional -s, -ce, and -se as in [s] and [z] ending sounds. These findings supported Andi-

Pallawa & Alam (2013) because of the phonological divergence in these two languages, L2 learners fail to produce English words fluently and accurately. Despite their linguistics knowledge in phonology, the divergent of sound producing techniques could hinder these teacher pronunciations. As in the complex case of morphophonemic, Taringan & Sembiring (2024) summarized the allomorph for plural, possessive, and third person as: /əz/ after sibilant consonants (coronal strident), /s/ after voiceless consonants, /z/ after voiced consonants. These findings supported their study it was the researchers also drew another conclusion that the shapes of the morphemes in English are mostly affected by nearby sounds, but on the other hand, sometimes the shapes of the sounds depend on the stems attached to the words, and other conditioning factors (Taringan & Sembiring, 2024).

To answer the third research question, content analysis was conducted from 240 booklets of Eye Level from Level B to Level I. Each level consists of 30 booklets with every sixth booklet serving as a review for the last 5 booklets thus every finding with the sixth booklet was excluded due to the similar materials contents. For the content analysis, the results found are displayed in Table 6:

**Table 6. The result of the content analysis in learning materials**

Phonological Awareness in the students' booklets			Total works found: 99
No.	Phonological features	Pieces of evidence in the booklets	
1.	Consonants	<p>Beginning consonants: B1 [m], B2 [s], B3 [t], B4 [b], B5 [h], B7 [f], B8 [n], B9 [l], B10 [r], B11 [p], B13 [k] for c, B14 [g], B15 [d], B16 [k] for k, B17 [ʒ], B18, B19 [v], B20 [w], B21 [j], B22 [kw], B23 [z], F7 [k] [s] for c, F8 [g] [dʒ] for g</p> <p>Ending consonants: C1 [m] [b], C2 [t] [d], C3 [n] [p], C4 [g] [l], C5 [ks]</p> <p>Double consonants: C25 -ff -ss -zz, C26 -ll</p> <p>Beginning consonant digraph: D1 [ʃ], D2 [ʒ], D3 [θ] [ð], D4 [hw] for wh, F5 [f] for -ph- and -gh-</p> <p>Ending consonant digraph D5 [ʃ], [ʒ], [θ], [k] for -ck</p>	36
2.	Consonant blends	<p>Beginning consonant blends: D7 [st] [sp], D8 [sn] [sk] [sm], D9 [kl] [pl], D10 [sl] [fl], D11 [kr] [dr] [fr] [tr], F1 [spl] [spr] [skr] [θr]</p> <p>Ending consonant blends: D13 [st], D14 [mp], D15 [nd] [sk], D16 [ft] [nt], D17 [ŋ] [nk]</p>	11

Phonological Awareness in the students' booklets			Total works found: 99
No.	Phonological features	Pieces of evidence in the booklets	
3.	Vowels	<p>Short vowels: B25 [æ], B26 [ɪ], B27[ɒ], B28 [ʊ], B29 [e], E11 [e] for -ea-, E13 [ʊ] for -oo-</p> <p>Long vowels: E1 [a:], E2 [ɔ:], E3 [ɜ:], E13 [u:] for -oo-, E14 [u:] for -ue- -ew -ui, E7[i:] for -ee- -ea-, E8 [i:] for -ie- -ei- -ey, E20 [i:] for -y, F4[ai] for -ind, -ild, -old.</p> <p>Diphthongs D19 [eɪ], D20 [aɪ], D21 [əʊ], D22 [(j)u:], D23 [aɪ] for y, E4 [eɪ] for -ai -ay, E5 [eɪ] for -igh- -ei- -ey, E9 [aɪ] for -ie -igh-, E10 [əʊ] for -oe- -ow -oa- -old, E15 [ɔɪ] for -oi- -oy, E16 [aʊ] for -ou- -ow-, E17 [əʊ] for -aw -au-</p>	27
4.	Syllable	E21 (multisyllabic words), E22 Open syllable, E23 closed syllable, I9 (multisyllabic words)	4
5.	Inflectional (morphophonology)	E19 [d] [t] [ɪd] sounds for inflectional -ed	1
6.	Alliteration	G9, I27	2
7.	Rhyme	Word family:C7, C8, C9, C10, C11, C13, C14, C15, C16, C17, C19, C20, C21, C22, C23 Poem: G9 Homophones: G28, G29	18

These booklets are the materials delivered by the three participants. In order to teach these materials, the teachers must understand the linguistics aspect underlying the topic. The materials from level B to level E are intended for young learners as they focus on these word categories or families based on their sounds keep in mind that the students are expected to master the alphabet to start the level B. The first step is initial consonant sounds in level B1-B23, initial short vowels, and medial short vowels in B25-B29. In level C, final consonants are taught in C1-C5. After that in levels C7–C26 the materials focus on word families in consonant-vowel-consonant (CVC) with short vowels. In levels D1-D17, the materials focused on initial and final consonant digraphs and blends, followed by diphthongs with silent -e in D19-D23. Long vowels and diphthongs are delivered in level e, starting E11-E17 and E20. These vowels are classified into the respective spelling groups mentioned in Table 4. On level E19, there is an honorable mention of morphophonemics in inflectional -ed in past tense forms. In E21-E23, the materials focus on syllables: multi-syllable, open syllable, and closed syllable. In level F1 the materials focus on three-letter consonant blends, while in level F2, F5, and F7-F8, they focus on consonant clusters, digraphs, and soft and hard sounds. For the alliteration and rhymes (including homophones), the focus is on the reading materials in poems and comprehension in levels G9, G28, G29, and I27.

These findings refer to phonological features as it is written, or word recognition strategies. These strategies support a study conducted by Ehri (2020) that showed grapheme-phoneme knowledge and phonemic segmentation are key foundational skills that launch development followed subsequently by knowledge of syllabic and morphemic spelling-sound

units. From level B to level F, all the sounds are learned through the letters group with pictures that enhance not only vocabulary development but also phonological and morphological aspects. Ehri (2020) also added that students apply their letter–sound knowledge to decode words in meaningful texts from the outset which enables them to function at the full and consolidated alphabetic phases and benefit fully from more advanced forms of text reading and writing. This result is also in line with Ihász, et al (2023) study that phonology paves the word recognition process. These findings may help us to understand the materials taught by the three participants.

The current studies found that the participants' phonological awareness sufficed all the focus on the phonological aspects despite the limit of some sounds that hindered the pronunciation. However, this limit could be overcome as they are aware of the phonetic or phonemic transcriptions, and the feature of an interactive dictionary could give examples of how the words are pronounced. The difficulties they found in producing consonant sounds are dental fricative sounds, post-alveolar fricative, and post-alveolar affricate. Difficulties in producing short vowels: front-open vowel, central-open mid vowels, central (or near back)-open vowels, and back-open vowel, while the difficulties in long vowels in the centering of [eə] sounds. Another difficulty is allomorph with the word that ends with /s/ and /z/ sounds. These difficulties might take time to practice, as the learners should at least understand the positions of the mouth, speech organs, and the manner of articulation to be able to overcome these difficulties. These difficulties were affected by the distinction of their native language to English. The teachers' teaching experience in the different settings also affect the difficulties that they perceived, as phonology is not the main things to be taught in schools. The last finding shows the materials that were delivered deal with phonological knowledge that is supported by word recognition strategies which makes it easier for the learners to remember the words and how they sound. Due to the design of the materials, the difficulties that the teachers face with the sounds will not hinder the learning process as the teachers are aware of the sounds that words represent. Hence, this study may help us to understand more about teachers' phonological awareness and difficulties and their underlying context. Moreover, the last finding also gives insight into practical phonics teaching. Future studies on the current topic are therefore recommended.

## CONCLUSION

The importance of phonology knowledge is essential for an English teacher in helping their students understand how the word sounds. In practice, non-native speakers might encounter difficulties due to phonological divergence between their native language and English. The present study was designed to determine the phonological awareness of English language center teachers, their difficulties, and the materials dealing with phonology. The results found that the teachers excel in their phonological awareness as they can separate the words into part of the syllables, classify their phonemes respectively, and come up with new words with alliteration and rhymes. However, there are some difficulties they face in sound-producing manner and placement. The next findings showed that these difficulties in dental fricative sounds, post-alveolar fricative, and post-alveolar affricate for consonants, front-open vowel, central-open mid vowels, central (or near back)-open vowels, and back-open vowel for short vowels, and centering of [eə] for diphthongs. The case of

morphophonology in allomorphs with inflectional /s/ and /z/ is a concern the teachers are facing too. The last finding is that the learning materials suffice the phonological awareness using word recognition making it easier for teachers to implement their limitations in phonology.

The present study makes several noteworthy contributions to the linguistics fields in education as phonology is a beneficial starting point for young learners to read. These findings enhance our understanding of how significant teachers' phonological knowledge is in teaching their students to write, read, and pronounce a word. Although the current study is based on a small sample of participants, the findings suggest a significant result of how phonological awareness in teachers and the proper materials could affect the learning process. Hence, its contribution will give more insight into further educational and linguistics focus areas.

The current investigation was limited by time constraints and the students' perception of phonology is not explored. Moreover, due to practical application of the test sounds [ʒ] are not included in the test, as most words with [ʒ] sounds usually come up with more than one syllable. Further research might explore other linguistics aspects or phonological aspects for students or teachers with different learning strategies. The findings of this study might have several important implications for future practice.

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#### **REFERENCES**

- Aini, N., Siregar, R. P., Mahendra, R., Damaris, A., & Putra, S. K. (2023). *Development of English Phonology Teaching Materials and Learning Strategies*. *Jurnal Riset Rumpun Ilmu Bahasa*, 2(1), 14-22. <https://doi.org/10.55606/jurribah.v2i1.741>
- Ambalegin, A. and Hulu, F. (2019). *EFL learners' Phonological Interference of English Articulation*. *JURNAL BASIS*, 6(2), p. 145. <https://doi.org/10.33884/basisupb.v6i2.1415>
- Andi-Pallawa, B. and Fiptar Abdi Alam, A. (2013). *A Comparative Analysis between English and Indonesian Phonological Systems*. *International Journal of English Language Education*, 1(3). <https://doi.org/10.5296/ijele.v1i3.3892>
- Adnyani, N. L. (2022). *EFL phonology: A Case Study of English Fricative Production by Indonesian Learners/Fonologi Bahasa Inggris sebagai Bahasa Asing: Studi Kasus Pelafalan Bunyi Geser oleh Mahasiswa Indonesia*. *Aksara*, 33(2), 283. <https://doi.org/10.29255/aksara.v33i2.645.283-294>
- Cárnio, M.S., Vosgrau, J.S. and Soares, A.J. (2017). *The Role of Phonological Awareness in Reading Comprehension*. *Revista CEFAC*, 19(5), pp. 590–600. <https://doi.org/10.1590/1982-0216201619518316>
- Carr, P. (2013). *English Phonetics and Phonology: An Introduction (2nd ed.)*. John Wiley & Sons.
- Carstairs-McCarthy, A. (2002). *An Introduction to English Morphology: Words and Their Structure (1st ed.)*. Edinburgh University Press.

- Cohen, L., Manion, L., & Morrison, K. (2013). *Research Methods in Education (6th ed.)*. Routledge.
- Couper, G. (2016). *Teacher Cognition of Pronunciation Teaching: Teachers' concerns and issues*. TESOL Quarterly, 51(4), pp. 820–843. <https://doi.org/10.1002/tesq.354>
- Creswell, J. W., & Creswell, J. D. (2018). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches (5th ed.)*. SAGE Publications.
- DePoy, E., & Gitlin, L. N. (2016). *Introduction to Research: Understanding and Applying Multiple Strategies (5th ed.)*. Elsevier Health Sciences.
- Ehri, L.C. (2020). *The science of learning to read words: A Case for Systematic Phonics Instruction*. Reading Research Quarterly, 55(S1). <https://doi.org/10.1002/rrq.334>
- Ihász, P., Benyhe, A., Sáry, G., Juhász, Z., & Navracsics, J. (2023). *Phonological Awareness of Bilinguals in Visual Word Recognition*. Strani jezici, 52(1), 49-73. <https://doi.org/10.22210/strjez/52-1/3>
- Maharani, P. N., Afifah, N., & Lubis, Y. (2023). *The Power of Phonology: Analyzing the Impact of Sound Structure on Language*. Journal of English Language Teaching and Learning (JELTL, 4(1), 48-52. E-ISSN: 2723-617X
- Matuate, V.A. (2024). *Using Phonetic Transcription for Pronunciation Learning*. BLESS: Bilingualism, Language, and Education Studies, 4(1), pp. 44–50. E-ISSN 2656-0518.
- McMahon, A. (2020). *Introduction to English Phonology (2nd ed.)*. Edinburgh University Press.
- Meade, G. (2019). *The Role of Phonology during Visual Word Learning in Adults: An Integrative Review*. Psychonomic Bulletin & Review, 27(1), 15-23. <https://doi.org/10.3758/s13423-019-01647-0>
- Milankov, V., Golubović, S., Krstić, T., & Golubović, Š. (2021). *Phonological Awareness as the Foundation of Reading Acquisition in Students Reading in Transparent Orthography*. International Journal of Environmental Research and Public Health, 18(10). <https://doi.org/10.3390/ijerph18105440>
- Milledge, S.V. and Blythe, H.I. (2019). *The Changing Role of Phonology in Reading Development*. Vision, 3(2), p. 23. <https://doi.org/10.3390/vision3020023>
- Nicholson, T., & McIntosh, S. (2019). *An Exploration of the Relationship between Phonological and Phonics Knowledge, and Self-efficacy for Teaching*. Dyslexia, 26(3), 286-304. <https://doi.org/10.1002/dys.1636>
- Östlund, U., Kidd, L., Wengström, Y., & Rowa-Dewar, N. (2011). *Combining Qualitative and Quantitative Research within Mixed Method Research Designs: A Methodological Review*. International Journal of Nursing Studies, 48(3), 369-383. <https://doi.org/10.1016/j.ijnurstu.2010.10.005>
- Pennington, M.C., Rogerson-Revell, P. (2019). *Phonology in Language Learning*. In: *English Pronunciation Teaching and Research. Research and Practice in Applied Linguistics*. Palgrave Macmillan, London. [https://doi.org/10.1057/978-1-137-47677-7\\_2](https://doi.org/10.1057/978-1-137-47677-7_2)
- Roach, P. (2009). *English Phonetics and Phonology: A Practical Course (4th ed.)*. Cambridge University Press.
- Tarigan, K.J. and Sembiring, M. (2023). *The Allomorphy in English Words: Morphology and Phonology Interrelated Approach*. Language Literacy: Journal of Linguistics, Literature, and Language Teaching, 7(1), pp. 229–240. <https://doi.org/10.30743/ll.v7i1.7075>