

MORPHOLOGICAL AWARENESS IN STUDENTS' READING COMPREHENSION: A CONNECTION WITH PHONICS INSTRUCTION

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ABSTRACT

The ability to read and learn a language is connected to morphological awareness. This research examines students' understanding of morpheme identification, morphological structural awareness, and reading comprehension for EFL students using morphological awareness tests, reading comprehension tests, and video analysis. The video analysis focuses on phonics instruction, a process of teaching reading in which students learn to match sounds to letters, highlighting its potential to enhance morphological awareness. The findings show that students who perform well on morphological awareness tests also score higher on reading comprehension tests. The analysis of the video on phonics instruction reveals its role in enhancing morphological awareness through repetitive activities. These results emphasize the importance of integrating phonics instruction to develop morphological awareness and improve reading comprehension. A mixed-methods approach was employed, resulting in both quantitative and qualitative data. Quantitative data were obtained from morphological awareness and reading comprehension tests, while qualitative data were gathered from video analysis on a YouTube channel.

Keywords: *Morphological Awareness, Phonics Instruction, Reading Comprehension.*

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INTRODUCTION

Adding, combining, or removing parts of a word is important in English language learning. This activity is similar to the LEGO block game, in which children are given blocks and prompted to construct a building of their choice. They can add or remove a block to achieve the desired result. Building these blocks will be easier if the children understand the purpose and use of each block, which can be combined to make one building.

The LEGO block game activity can be conceptualized as an illustration for morphological awareness, which refers to the ability to understand and manipulate the smallest meaningful units of language, known as morphemes (Amirjalili & Jabbari, 2018; Richards & Schmidt, 2010). Similar to the way LEGO blocks combine to form building structures, morphemes are combined to create words, enabling learners to deconstruct unfamiliar words into smaller, more manageable components. This capability supports the development of vocabulary depth and

facilitates improved comprehension of textual materials. Furthermore, Zhang and Zhang (2022) emphasize that morphological awareness exhibits a significant relationship with second-language reading and listening proficiency.

The researchers became interested in the discussion of morphological awareness and its relationship to reading comprehension because this area is supported by decades of research. Henry (2003), as cited in Goodwin and Ahn (2013), emphasized the importance of providing children with strategies to empower their reading and spelling skills, including teaching morphemes and understanding morphology. Goodwin and Ahn (2013) also found that morphological instruction has the potential to enhance literacy outcomes for students. Furthermore, morphological awareness has been shown to indicate that contributes both directly to reading comprehension and indirectly through its impact on reading vocabulary. Native English speakers and second-language learners from Spanish, Filipino, and Vietnamese-speaking backgrounds were found to have comparable relationships (Kieffer & Lesaux, 2012).

Carlisle's (2000) research laid the groundwork for studies showing a strong link between structural awareness and the ability to define morphologically complex words, as well as connections to derived word reading. The morphological tasks accounted for significant variation in reading comprehension across both grade levels, with a greater contribution in fifth grade than in third grade. Since third-graders are still learning how to read and comprehend complex words, morphological analysis can help them become more proficient readers. Other recent research has also been conducted at different levels of education exploring topics related to morphological awareness and reading comprehension (Hasenäcker et al., 2020; Hjetland et al., 2019; James et al., 2021; Lee et al., 2023; Levesque et al., 2021; Zhao et al., 2019), with the most studies being conducted at the primary to intermediate levels.

In the area of reading instruction, a notable gap exists in research that combines phonics approach with reading comprehension. This gap highlights the need for further exploration by researchers to enhance instructional approaches. Morphological awareness plays an essential component in the development of proficient reading skills. For EFL students, fostering morphological awareness significantly assists in decoding, inferring meanings, facilitating word reading, and comprehending texts (Amirjalili & Jabbari, 2018). These skills are essential for improved reading comprehension, which supports students' academic success and language proficiency by aiding both basic and advanced text processing (James et al., 2021).

Learning phonics, one of the first formal step in literacy development, equips students with the ability to connect written letters and spoken sounds (Roach, 2010), providing the foundational decoding skills necessary for further reading comprehension. Phonics instruction, as a component of the phonics approach, refers to classroom teaching practices. According to Anderson (2003), teachers should recognize that teaching phonics is a method, not the end goal, of teaching.

The phonics approach helps children learn new words by recognizing their shapes and pronunciation, aiding vocabulary recall without memorization

(Manullang et al., 2022). This is crucial for English language learners and the early stages of reading, enabling them to read words in texts. Identified by the National Reading Panel (2000) as a key early literacy practice, phonics, along with phonemic awareness, fluency, vocabulary, and comprehension, forms the foundation of a comprehensive reading program.

Early word recognition and pronunciation are facilitated by phonics and phonemic awareness, but as students advance, comprehension of increasingly complicated word structures becomes crucial. In this context, morphological awareness helps students become proficient readers by allowing them to break down words into their meaningful parts. Carlisle (2000) explains that morphological awareness refers to the ability to consciously think about and manipulate morphemes, the smallest units of meaning within a word. Therefore, understanding morphological awareness is essential because it directly contributes to one's ability to engage with text meaningfully.

Anderson (2003) states that the aim of reading is comprehension, and the process of reading is a fluent one in which readers construct meaning by integrating details from a text with their own prior knowledge, highlighting the interactive nature of comprehension. Similarly, Klinger et al. (2007) describe reading comprehension as a process of generating meaning through the coordination of multiple skills, including decoding, using background knowledge, and maintaining fluency. These views underscore that effective reading comprehension requires both the synthesis of textual information with prior knowledge and the ability to coordinate various cognitive strategies to fully grasp explicit and implicit messages within a text.

Students who receive phonics instruction are better able to learn the written correspondence between sounds, letters, and letter patterns. Additionally, International Literacy Association (2018) reveals phonics as one element of a comprehensive literacy program that has to include practice in comprehension, fluency, vocabulary, and writing. From this statement, it can be seen that phonics instruction is needed in language learning.

In addition to that agreement, the meta-analyses by National Reading Panel (2000a) were carried out to answer some questions about the impact of systematic phonics instruction on reading growth when compared to non-phonics-focused instruction. The findings provided strong evidence supporting the effectiveness of systematic phonics instruction in teaching children to read. Alphabetic knowledge is useful for establishing memory connections that allow children to read irregular words they have previously read, as this might explain the role of phonics itself.

A recent study highlights the influence of vocabulary mastery and reading strategies on reading ability (Panjaitan et al., 2024). Morphological awareness aids in understanding word structures, while phonics facilitates decoding and vocabulary acquisition. Both approaches emphasize the integration of explicit linguistic strategies to enhance reading comprehension.

Ehri (2020) attributes the development of word-reading skills to a process that begins with phase theory. This area focuses on how word-reading skills emerge in beginners. The next section is the pre-to-partial alphabetic phase, where

students learn to read visually distinctive but non-phonetic spellings. Following that is the partial-to-full alphabetic phase, where students become familiar with letter-sound relationships but may still struggle to decode new words. The final phase is the consolidated alphabetic phase; in which students acquire knowledge of multi-letter spelling-sound units and can apply them to read words. Duke et al. (2021) highlight that phonics is a fundamental skill in word reading and plays crucial role in developing reading comprehension.

From these explanations, the importance of integrating morphological awareness and phonics instruction emerges as a key in developing morphological awareness and improving reading comprehension. This research examines students' understanding of morphological structural awareness and reading comprehension in relation to phonics instruction. Based on the research background, the research problem is formulated as follows:

1. How do the results of morphological awareness tests correlate with reading comprehension tests?
2. In what ways does the analysis of phonics instruction integrate with morphological awareness processes?

RESEARCH METHOD

The research methodology used was mixed methods. Creswell and Clark (2011) define a mixed-methods research design as one with unique philosophical assumptions and inquiry methods. In the qualitative component, it seeks to understand the meaning of individuals or groups to explore social or human problems (Creswell, 2009). The research design adopted was a correlational study, a method for characterizing the level of importance of relationships between two or more variables (Halonen & Santrock, 1999).

The data, data sources, and the instruments presented as follows:

Table 1. Data, Data Sources, and Instruments

Data	Data Sources	Instruments
Morphological awareness	Students' test	Morphological awareness test
Students' reading comprehension	Reading test	Reading comprehension test
Phonics instruction	Instructional video	Observation of phonics instructional video on YouTube

The procedure involves conducting two morphological awareness tests and one reading comprehension test to EFL students. The participants of this research consist of 112 students. The framework for morphological awareness test is adapted from McBride-Chang et al. (2005) as follows:

Table 2. Framework for the Morphological Awareness Test

Variable	Aspect	Indicator	Item Number	Total
Morphological Awareness	Morpheme Identification	Identifying the use of prefixes	5	1
		Identifying the use of suffixes	1, 2, 3, 4	4
	Morphological Structural Awareness	Understand the use of suitable prefixes	5, 9, 10	3

		Understand the use of suitable suffixes	1, 2, 3, 4, 6, 7, 8	7
Total				15

Meanwhile, the framework for reading comprehension test is adapted from Marlisa (2021) as follows:

Table 3. Framework for the Reading Comprehension Test

Variable	Aspect	Indicator	Item Number	Total
Reading Comprehension	Main Idea	Finding and writing the main idea of the text	1, 2, 3, 4, 5	5
Total				5

FINDING AND DISCUSSION

Finding

The Result of Morphological Awareness Test 1

The level of morphological awareness is adapted from Marlisa (2021). Students must mark (x) in the YES or NO column. If they believe the second word is related to the first word (based on a pattern involving a base word and its derived form using a suffix or prefix), they should mark (x) in the YES column. If they believe the second word is unrelated or does not have a nearly similar meaning to the first word, they should mark (x) in the NO column.

The following are the data results of students' morphological awareness test, including two parts (Test 1 & Test 2) based on predetermined aspects in Table 2.

Table 4. Morphological Awareness Result (Test 1)

Item Number	Frequency Yes	Percentage	Frequency No	Percentage
1 (Kind – Kindness)	95	84,82%	17	15, 2%
2 (Create – Creation)	91	81,3%	21	18,8%
3 (Environment – Development)	20	17,9%	96	85,7%
4 (Child – Childhood)	93	83%	20	17,9%
5 (Usual – Unusual)	82	73,2%	30	26,8%

Based on the results in Table 2, the participants demonstrated varying levels of morphological awareness in identifying relationship between root words and derived words. The following explains the results in detail.

For Question 1 (Kind – Kindness), the majority of participants (94 or 84.82%) correctly identified the morphological relationship between “kind” and “kindness,” indicating strong awareness of this pattern. Only 15.2% responded incorrectly.

Similarly, for Question 2 (Create – Creation), most participants (91 or 81.3%) recognized the relationship between “create” and “creation,” with 18.8% responding incorrectly.

The majority (96 or 85.7%) in Question 3 (Environment – Development) correctly identified that there was no clear morphological relationship and answered “no”, while only 17.9% incorrectly marked it as related.

A high percentage of participants (93 or 83%) correctly recognized the morphological relationship between “child” and “childhood” in Question 4 (Child – Childhood) with 17.9% responding incorrectly.

For Question 5 (Usual – Unusual), most participants (82 or 73.2%) correctly identified the relationship between “usual” and “unusual,” while 26.8% responded incorrectly.

The results indicate that participants were generally proficient in recognizing common morphological patterns involving suffixes and prefixes. However, a considerable number of participants also found it difficult to understand items in the question such as, “environment” and “development,” which do not have a clear morphological relationship, suggesting possible areas for instructional emphasis.

The Result of Morphological Awareness Test 2

Table 5. Morphological Awareness Result (Test 2)

Item Number: Answer Key	Frequency	Percentage
Number 1: Peaceful	47	42%
Number 2: Amazing	90	80,36%
Number 3: Exciting	73	65,18%
Number 4: Interesting	94	83%
Number 5: Impossible	82	73,2%
Number 6: Careful	60	53,57%
Number 7: Valuable	83	74,11%
Number 8: Lovely	71	63,39%
Number 9: Misinformation	54	48,21%
Number 10: Recycle	38	33,93%

The results in Table 3 highlight participants' varied proficiency in completing morphological awareness tasks involving deriving the correct form of a word based on context.

Morphological Awareness Test 2 Results (Highest to Lowest): 4, 2, 7, 5

Number 4:

A: Do you know that Tyrannosaurus rex or T-rex means “tyrant lizard king” in Greek? Oh! I’m obsessed with learning about dinosaurs!

B: Dinosaurs are really (interest), and I love imagining what they were like.

Number 2:

A: I’m really interested in exploring space and studying stars and planets.

B: My sister also likes to explore about space, and she said that it’s

Number 7:

A: Looking at these (value) paintings in this museum, I wonder how they moved all of these things into one room.

Number 5:

A: Passing the test without studying is (possible) because I need to review my notes first.

B: I agree with you. I also need to ask Mr. Ron about his explanation this morning.

The percentage for questions with items, such as “interesting” (83%), “amazing” (80.36%), “valuable” (73.2%), and impossible (73.2%) indicate that

most participants correctly answered these questions showed good awareness of commonly derived forms.

Morphological Awareness Test 2 Results (Highest to Lowest): 3, 8, 6

Number 3:

A: I love playing video games!

B: Same here! They are so much fun and (excite).

Number 8:

A: The dress is so (love)! Where did you buy it?

B: I did not. It was belong to my mother before, and she just stitched a new ribbon here.

Number 6:

A: You have to be (care) when walking outside, because it's raining right now.

B: Yes, mom. I will remember your words.

Words like “exciting” (65.18%), “lovely” (63.39%), and “careful” (53.57%) were moderately well-recognized, suggesting some struggle with less straightforward derivations.

Morphological Awareness Test 2 Results (Highest to Lowest): 9, 1, 10

Number 9:

A: There has been ... (information) on this announcement board. We need to tell Lily!

B: I also just noticed this one. I think we need to call her to find out her position.

Number 1:

A: I appreciate instrumental music than any other genre.

B: Me too. It's so (peace) and calming to listen to, especially when it's raining.

Number 10:

A: Please remember to throw the paper trash in the ... (cycle) bin.

B: Thank you for reminding me!

In contrast, “misinformation” (48.21%), “peaceful” (42%), and “recycle” (33.93%) had lower correct response rates, reflecting difficulties with less familiar or more complex derivations.

In general, participants performed better on familiar or commonly encountered derivational patterns, such as adding “-ing” or “-able.” However, items involving less familiar prefixes (*mis-*), abstract forms representing a quality or a state (*peaceful*), or less frequently used terms (*recycle*) posed greater challenges that lead to potential areas for instructional emphasis.

The Result of Reading Comprehension Test

The level of reading comprehension adopted from Marlisa (2021) is shown below, along with the data results of students' reading comprehension tests based on predetermined aspects.

Table 6. Reading Comprehension Result

Item Number: Answer Key	Frequency	Percentage
Number 1: B	82	73,2%
Number 2: B	76	67,9%
Number 3: B	84	75%
Number 4: B	37	33%

The results in Table 4 indicate participants' reading comprehension performance on two texts, titled "*Traveler Girl*" and "*Borobudur Temple*". Each number in Table 6 refers to a question in the reading comprehension test, which will be explained below.

The majority of participants (84 or 75%) accurately identified the preferences of foreign visitors to Borobudur in Question 3. It reveals an excellent capacity to interpret particular details. Question 1 was also correctly answered by answered by most of the participants (82 or 73.2%). It can be stated that the participants showed an adequate grasp of finding the main idea in *Traveler Girl*.

Based on important details in text, 76 or 67.9% of participants in Question 2 correctly identified Romana Maya's description. In Question 4, only 37 participants (33%) correctly summarized the text. It suggests that the participants have difficulty synthesizing information into a concise summary. The issue with summarizing signifies a greater emphasis on interpreting broader ideas and synthesizing information. However, the results indicate improved comprehension of questions requiring the identification of details and main concepts.

The reading comprehension test has one open-ended question (number 5), which requires participants to provide an answer based on what they have read in the given text. Although the participants' ability to synthesize and summarize text in a comprehensive manner varies, they have a strong recall of explicit information and factual details. This pattern highlights the importance of focusing on higher-order reading skills, such as connecting ideas and crafting cohesive summaries.

The Result of Observation on Youtube Channel

The YouTube channel being analyzed is "English Teaching Games". It provides ideas for teaching English using several types of games. The analysis was specifically done on the playlist "ESL Phonics Games" (English Teaching Games, n.d.):

1. Words Matching Activity for Kids (3 months ago):
Muxi, as the teacher, uses this method to practice rhyming words. Students appear to enjoy it and actively participate in the activity. This method can also be applied to phonics blending and digraphs.
2. ESL Phonics CVC Cups Game (1 year ago):
CVC stands for Consonant-Vowel-Consonant. The concept of this activity is to teach how to decode and read simple words using cups and flashcards. Students must read the words, which helps them recognize and understand the words as they read. They will create CVC words during the activity.
For example: "hen, pen, net, pet"
3. ESL Phonics CVC Game (1 year ago):

CVC stands for Consonant-Vowel-Consonant. This activity is designed for spelling practice. Students write the initial letters on triangles, while the other letters are placed on squares. It also helps them develop phonics blending skills.

4. ESL Rhymes Games for Kids (1 year ago):

This activity focuses on practicing rhymes, such as sleeping, walking, reading, and talking. When students hear an incorrect word, they must ring the bell. Muxi, as the teacher, categorizes the words at the start to help students understand the correct group of rhyming words. This activity also enhances careful listening, and students can practice pronunciation afterward.

Discussion

As explained, morphological awareness is the ability to identify, comprehend, and employ word components, such as roots, suffixes, and prefixes. The findings for the first research question on the morphological awareness test demonstrated a strong positive correlation between the processes of identifying morphemes that indicate the use of prefixes and suffixes. This ability, as shown in several studies, encourages readers to analyze complex words and comprehend their meanings in context, which is essential for reading comprehension (Carlisle, 2000; Hjetland et al., 2019; Levesque et al., 2021; Zhao et al., 2019).

As mentioned in the background from a research result in a previous study that students' comprehension of prefixes and suffixes gradually improves as they move through the educational level (Hasenäcker et al., 2020). The development of morphological awareness is essential for reading comprehension. Students who possess a strong morphological awareness are able to deconstruct words, understand their meanings, and analyze texts

The development of morphological awareness greatly aids EFL students in decoding, meaning inference, word reading, and text comprehension as explained in a prior study (Amirjalili & Jabbari, 2018). This connection is further supported by students' answers in the first test, which showed that those with well-developed morphological awareness could identify the use of prefixes or suffixes.

For the second test, most students correctly answered the questions on understanding suitable prefixes or suffixes within sentences. However, many students still made spelling mistakes. One could argue that EFL students with moderate morphological awareness performed well on morphological awareness test. They can understand texts fairly well, but they have trouble with more complex ones. This research demonstrates how important morphological awareness is in reading comprehension. Through cultivating students' comprehension of word structures, teachers can significantly enhance their reading skills.

Morphological awareness improves word recognition abilities by allowing individuals to better distinguish and understand the meanings of complex words. Understanding word structure allows them to break down unfamiliar words into familiar morphemes and determine the meanings. As mentioned by James et al.

(2021) in the background that the expanded vocabulary enables readers to understand more words in texts, which improves comprehension.

Readers proficient in morpheme analysis can better understand word relationships. This understanding of sentence structure and word relationships enhances overall text comprehension (Apel et al., 2021). The identification of morphemes and structural analysis of texts are found to be correlated. Students with average morphological awareness can apply this process to analyze texts and identify the main idea.

A prior study has noted that morphological awareness and vocabulary are more closely related in older elementary students than in younger ones (Lee et al., 2023). This implies that as students progressing, their capacity to deconstruct words into morphemes, such as distinguishing between unhappy and happily improves, enabling them to more successfully evaluate texts and determine important ideas. To put it briefly, morphological awareness increases with age, enhancing vocabulary and gradually improving reading comprehension abilities.

The findings for the second research question showed that students who decoded spellings learned pronunciations and meanings more quickly than those who were only exposed to spellings. Learning improved more when students saw spellings than when they did not. Active engagement with both visual and phonetic aspects of words, as reinforced by Manullang et al. (2022), highlights the importance of decoding in literacy instruction.

In a spelling recall post-test, students wrote words they had seen more accurately than those they had not seen; decoding led to better spelling recall than exposure alone. This demonstrated that spellings were remembered. Therefore, it can be stated that the observation on Muxi's YouTube Channel align with the characteristics of the phase theory.

The integration of phonics instruction with morphological awareness processes can be understood through the lens of Ehri's (2020) description of theory of word-reading development, which outlines the developmental phases of word recognition. Specifically, the activation of grapheme-phoneme connections through exposure to spellings aligns with the early stages, particularly the pre-to-partial alphabetic phase. In this phase, students begin to recognize visually distinctive spellings but may not yet decode them based on phonetic rules.

As students move through the partial to full alphabet phase, they start to form strong association between letters and sounds, even though they might have trouble with new words. This description has roughly the same results as the findings with the core emphasizing the significance of explicit decoding. It is based on the consolidated alphabetic phase, where students use their understanding of multi-letter spelling-sound units to read words fluently. Hence, explicit decoding strengthens the grapheme-phoneme relationships that are critical for progressing through these phases and learning new words.

Students, who receive systematic phonics instruction, especially through repetitive activities, are effectively able to absorb word spellings, strengthen their grasp of morphology, and improve their decoding and comprehension skills. Therefore, phonics instruction offers a solid basis that ought to be incorporated into each level of education. It is crucial for enhancing morphological awareness

and reading comprehension abilities, giving students the resources they need to succeed in the classroom.

Morphological awareness is closely related to reading comprehension because it allows students to infer meanings from unfamiliar words and comprehend texts more effectively. Students with strong morphological awareness can decode complex words and comprehend their meanings in the context of the text. As a result, phonics instruction that emphasizes morphological analysis can significantly enhance students' reading comprehension abilities. Conforming to Duke et al. (2021), phonics is an essential word reading skill that is vital to advancement of reading comprehension.

Integrating phonics instruction into reading helps students develop the ability to decode unfamiliar words, which is a critical step in early literacy development. By incorporating phonics, students build a solid foundation for becoming confident and independent readers capable of comprehending complex texts. This foundation equips students with the tools to approach new vocabulary, making it especially important for those struggling with reading or learning a second language.

Once students can decode words, they focus on understanding complex word structures through morphological awareness. Phonics and morphological awareness reinforce one another. As students improve their phonics skills, they become better at recognizing word patterns and structures which could lead to developing their morphological awareness. Sanden et al. (2022) highlighted teachers' emphasis on phonics pedagogy, underlining the importance of analyzing phonics instruction for educational settings. Integrating phonics with morphological awareness enhances students' reading comprehension.

The most obvious finding to emerge from the analysis is that students who receive systematic phonics instruction, particularly through repetitive activities, are better equipped to learn word spellings, solidify their understanding of morphology, and enhance their comprehension and decoding abilities. As a result, phonics instruction provides strong foundation that should be included in all educational levels. It is essential for improving reading comprehension and morphological awareness, providing students with the tools they require to learn a language.

CONCLUSION AND SUGGESTION

The results of the research highlights those students who perform well on morphological awareness tests also tend to score higher on reading comprehension tests. Regarding the second research question, the analysis of the video on phonics instruction reveals the repetitive activities which has potential role in enhancing morphological awareness. The results conclude that a key factor in improving students' reading comprehension is the integration of phonics instruction with morphological awareness processes.

This study's limitations should be acknowledged in the area of lacking teachers' perspectives and the absence of long-term data on the effect of phonics instruction. The focus of the study is students' performance and phonics instruction; however, it does not investigate how teachers view and apply these

strategies or how they impact students over time or across age and skill levels. This restricts the study's capacity to provide a thorough grasp of the long-term effects of teaching methods and teacher experiences on students' development.

By incorporating research findings into instructional strategies, teachers can better support students' development of morphological awareness and reading comprehension. It also ultimately promotes academic achievement and continuous development. Further research is necessary to fully explore the multifaceted concept revealed by this study.

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