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Contents

Does Phonemic Sensitivity Impact on Comprehension?

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Abstract

One of the earliest and most popular stage theories of reading development proposed that all words are initially recoded to sound with a later developmental shift to visual access and comprehension. Empirical investigations of this phonological – to visual stage hypothesis however have been consistently inconsistent as other studies found evidence of direct visual access even in lower primary classes with no suggestion of hypothesized transition from a phonological to a visual state. Yet others have reported evidence of early reliance on phonology together with a developmental shift toward direct visual access and comprehension. Thus, the notion that children must first pass through a point-to-sound rewarding stage is left unsolved by this body of evidence. The present study contributes to the resolution of the conflict by accessing the contributions of phonemic sensitivity to comprehension. The quasi experiment with a sample of 96 emergent readers revealed significant differences in favour of the experimental group (t{94 = 2b.44; p<01). There was also significant difference in the achievement of male and female students (t{94 = 2b.44; p<01). Implications for early reading instruction are drawn.

Most recent research into phonemic sensitivity in comprehension has been directed to the question of whether or not phonology is involved rather than the question of what purpose this information may serve. Does evidence of phonology imply an essential role in comprehension or is it merely an epiphenomenon – a vestige perhaps of an earlier development stage in which print to sound translation was dominant? Most theorists would reject a strong version of the traditional recoding hypothesis (Gough, 1972) which proposes that word recognition and comprehension can be accomplished only by translating print into sound prior to accessing meaning (Share & Stanovich, 1995) Many theorists (Perfetti 1992; Seidenberg 1992) consider this activation to be helpful in word recognition or at least in the case of low frequency words (Seidenberg, 1992) but few would agree that phonemic sensitively is a prerequisite for comprehension in the skilled reader. Most would agree that visual or orthographic information is preeminent in the recognition and consequently comprehension of most familiar words by skilled readers (Seidenberg, 1992)

According to Gough & Juel (1991) reading is the product of decoding and listening comprehension. In other words, the development of the decoding skill is the task of overwhelming importance: word recognition is the foundational process of early reading acquisition. Obviously, to emphasis the centrality of word recognition is not to deny that the ultimate purpose of reading is comprehension. Adequate word recognition ability alone clearly does not guarantee good comprehension. Nevertheless, while it is possible for adequate word recognition skills to be accompanied by poor comprehension skills, the converse virtually never occurs. According to Share & Stanovich (1986), there is no known teaching method that has resulted in good reading comprehension without simultaneously leading to the development of at least adequate word recognition ability. Furthermore, an overwhelming amount of evidence indicates that the proximal impediment to reading in at –

risk and reading disabled children is difficulty in recognizing words (Adams & Bruck, 1993; Stanovich, 1994).

In fact, word recognition is so central to the total reading process that it can serve as a proxy diagnostic for instructional methods. Since the word recognition skill will be a by-product of any successful approach to develop reading ability whether or not the approach specifically targets word recognition, lack of skill at recognizing words is always a reasonable predictor of difficulties in developing reading comprehension ability (Stanovich, 1994). Other studies have reported evidence of early reliance on phonemic sensitivity together with a development shift toward direct visual access (Backman, Bruck, Herbert & Seidenberg, 1984; Reitsma, 1984).

However, Stanovich (1994) noted that many of these studies are plagued by interpretational difficulties. Although phonemic sensitivity may not be critical for skilled readers as some believe, it might still be the case that novice readers depend heavily on print to sound translation for comprehension. The notion that children must first pass through a print to sound recoding stage (phonemic sensitivity) is left unresolved by this body of evidence. This study contributes to the resolution of the conflict by providing an answer to the question raised in the title: Does Phonemic sensitivity impact on comprehension?

It is instructive to explain the terminology related to this research because this often breeds confusion among educators. In particular the terms phonological awareness, phonemic awareness/sensitivity and phonics are sometimes used interchangeably. As stated in an earlier work (Okebukola, 2007) phonological awareness is a child's sensitivity to the sound structure of language. Phonemic awareness refers to the child's ability to manipulate individual sounds (phonemes) within words. Phonics is an instructional approach used to help children make sense of the connection between sounds and letters. Each is important to early reading instruction.

Research Design

The study adopted a quasi experimental pretest – posttest, non randomized control group design. It was used to examine any possible effect of phonemic sensitivity on the comprehension of emergent readers.

Hypotheses

The following null hypotheses were formulated and tested at a pre-set alpha level of 0.05:

(1) There is no significant difference in the comprehension of emergent readings who are phonemically sensitive and those who are not.

(2) There is no significant difference between phonemically sensitive male and female emergent readers in comprehension.

Subjects

96 pupils in intact classes from two randomly selected public schools in Ojo Local Government Area of Lagos State participated in the study. The pupils were enrolled in primary one and their ages ranged from 5 to 7 years. They were found to be emergent readers that is, pupils who were just beginning to learn how to read.

Instrumentation

One researcher developed instrument was used to gather data. Test of Comprehension (TOC) was developed using prescribed reading text for Nigerian Primary schools – New

Oxford English course book II by A. Banjo. The instrument was validated by three experts in Language Education and the reliability coefficient was determined as 0.82 using the KR (21) procedure.

Procedure and Treatment

The two schools involved in the study were arbitrarily assigned to the groups. The experimental group was handled by the researcher. The English language teacher of the school taught the control group in the conventional method of teaching reading i.e. writing on the board, reading to pupils and asking pupils to read individually and in groups. The experimental group was exposed to phonemic segmentation and sensitivity through teaching in grapheme-morpheme correspondence of the key words in the reading passage before the reading instruction began. The data gathering process lasted six weeks. The experiment began with the administration of TOC to all the pupils in the two groups as pretest as follows:

Pupils read the following passage and answered the questions orally.

Passage I

This is a cat.
The cat is fat.
The fat cat is on the mat.

Questions

1. What is on the mat?
2. Is the cat fat?

Passage II

Ben has a red hen.
The red hen has a nest and an egg.
The egg is for Ben.

Questions

1. Who has a red hen?
2. Is the egg for Biliki?

Passage III

This is a pig.
The pig is big.
It has a fat kid.
The pig is on the hill.

Question

3. What is big?
4. What is fat?
5. Is the pig on the mat?

Passage IV

Bisi has a dog?
The dog is in the box?
It is a big box?

Question

6. Who has a dog?
7. What is in the box?
8. Is the box on the dog?

This was followed by the treatment using the scheme shown below:

a. Teaching the high frequency words:
   is, this, the, on, for, has, in, it, a, an.
b. Teaching phonemic sensitivity through the manipulation of phonemes within the following words:
   cat, fat, mat, Ben, red, hen, nest, egg, pig, big, kid, hill, Biliki, dog, box.
c. Reading the passages individually
   Treatment lasted for five weeks after which TOC was given as posttest. The pretest did not indicate sensitivity to sound in the two groups.

Data Analyses and Results

Data on the achievement test was computed by determining the mean scores and standard deviation. The differences between pairs of mean scores were assessed by the use of t – test. The results on the reading comprehension measure showed statistically significant differences among children in the two groups with the experimental group having the higher mean score ($t\ (94 = 26.44;\ p < 01)$ as shown in table 1.0. *(See Appendix).* Hypothesis 1 was therefore rejected. There was also significant difference in the achievement of males and females in the sample. Ho2 was therefore rejected. The means of the two groups for the dependent measure is graphically depicted in Table 2.0. *(See Appendix).*

Discussion and conclusion

The findings of this study aligns with the position of previous researchers (Ball & Blackman, 1991; Hatcher, 1994) that training school children in various phonemic sensitivity skill can lead to faster rates of reading and comprehension. It however runs counter to the admonition of the whole-word advocates that language should not be fractionated (Okebukola, 2004) neither by the way is the "admonition to not break up" the comprehension process (Palinscar & Brown 1984). According to Stanovich (1994) a growing number of studies have been conducted that indicate that phonemic sensitivity can be increased through appropriate personal experiences, and that such training results in a significant increase in word recognition, comprehension and spelling skills.

The results further recorded significant difference in the performance of male and female subjects in comprehension in favour of girls. Previous studies in the area of gender and reading achievement have consistently endorsed the imbalances in the reading achievement of boys and girls according boys lower test scores. (Okebukola, 2007).

Other works in which gender imbalances are implicated in favour of girls include those of Whitehead (1975), Cappay & Madden, 1975 cited in Okebukola (2007). It is acknowledged in reading instructional practice that the ends of good reading are comprehension and enjoyment of printed language. However, progress towards such goals cannot be attained by children who are still struggling with lower – level word recognition processes. Reading instruction must not only foster the comprehension and enjoyment of the text, it must also optimize the development of phonological recoding and any prerequisite and complementary skills. Given that phonological recoding depends on insight into the alphabetic principle which in turn requires some threshhold level of phonics sensitivity,

systematic instruction in phonemic sensitivity, synthetic phonemics and in how to use these skills in reading meaningful text are essential ingredients of effective reading instruction.

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Appendix

Table 1.0

T – Test on comprehension of control and experimental groups

Measure	Group	N	Mean	S.D	T
Comprehension	Experimental	40	18.84	6.92	26.44
	Control	56	12.61	8.04	

Table 2.0.

T – Test on comprehension of male and female.

Measure	Gender	N	Mean	SD	T
Comprehension	Male	43	8.83	3.39	
	Female	53	5.93	3.78	2.31

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