

**ENHANCING READING ABILITY OF PUPILS USING A  
DIGITAL BASED SYNTHETIC PHONICS INSTRUCTION IN  
OSHIMILI NORTH LOCAL GOVERNMENT AREA,  
DELTA STATE**

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**Abstract**

*The study explored ways of enhancing the reading ability of pupils using a digital based synthetic phonics instruction in Oshimili North Local Government Area, Delta State. A pre-test and post test quasi experimental design was adopted in conducting the research. The population of the study was 778 primary one pupils while the sample of the study was 51 primary one pupils which is made up of 26 female and 25 male were drawn from Mmehala primary school in Oshimili North Local Government Area of Delta State. Two research questions guided the study. A research instrument titled Reading Achievement Test (RAT) was validated by two experts in measurement and evaluation and one expert in English language from University of Nigeria, Nsukka and the internal consistency of 0.95 of the test was obtained using Kuder-Richardson method (K-R21). Pre test was done prior to the commencement of lessons and after the treatment of digital based synthetic phonics instruction, post test was conducted with the Reading Achievement Test and the data collected was analyzed using mean and standard deviation. The findings of the study revealed that there was a gain in achievement in reading ability after treatment with digital based synthetic phonics instruction and there was no difference in the achievement gain of pupils based on gender as a result of using synthetic phonics reading instruction. Based on the findings, it was recommended among others that teachers should incorporate a digital based synthetic phonics instruction in teaching pupils reading in primary school.*

**Introduction**

Reading is one of the most critical skills in language development. It is an activity a child engages in right from the day the child commences his educational career. Hardy (2017) defines reading as a multifaceted process involving word recognition, comprehension, fluency and motivation. In the

view of Ogbonna (2014), reading is the ability to recognize characters or speak words that may be written on paper and other formats of writing. The ability to read is a major determinant in every formal learning situation that requires the effective use of books and other writing materials. Thus, the importance of reading in a child's life cannot be overemphasized because it is not just an affair carried out in a school but a lifelong activity. It is an indispensable skill needed for the acquisition of knowledge and other subjects. Hence, Obidike (2013) stated that reading is considerably vital to the attainment of literacy in schools. Similarly, Akpojotor (2019) stated that reading is the ability of the reader to decode text and make meaning out of it. Thus, the ability to read is critical to learning for the primary school child.

For the Nigerian primary school child, word recognition and comprehension is a problematic issue. Children can neither pronounce words in a given text nor write down spellings of words dictated to them by their class teachers and they fail to attain the required level of reading by the fourth year (Akinbote, Kolawole & Kolawole, 2017). And this can be traced to a lot of factors such as poor teaching and learning methods. The method of teaching appears to determine pupils' achievements in every subject. Ekpo (2007) noted that the current method of teaching early reading is the rote memorization method. This method lacks any form of motivation for pupils and the knowledge gained through rote memorization is not easily applicable when they see new words.

Consequently, children are unable to decode unfamiliar words using the rote memorization method. The inability of the child to decode unfamiliar words could therefore be attributed to the fact that they lack basic phonic skills. Hardy (2017), defines phonics skills as the ability of pupils to read words through auditory training and associating these sounds and letters in written form. There are different types of phonics instruction, but this paper will dwell on the synthetic phonics instruction. The synthetic phonics instruction is the bringing together of different sounds to form words (Sue & Sarah, 2009). It is a method that adopts a direct, systematic and rapid teaching of letter sounds to pupils. This is immediately followed by teaching them how to blend the letter sounds to form words (Johnston and Watson, 2005).

In synthetic phonics, pupils are taught the 42 sounds with selected decodable stories and sight words are taught words gradually to enable pupils to make sentences with words. Researches carried out by Johnston and Watson reported that children taught with synthetic phonics were more than eleven months ahead in reading and writing and more than nine months ahead in comprehension than children taught by other methods. Blaiklock and Haddow (2007) further asserted that the effect of synthetic phonics instruction in

reading achievement has an important role in facilitating reading of the foreign language. In the view of Sue and Sarah (2009), the synthetic phonics instruction teaches the sounds in a funny, multi-sensory and interactive way with activities for each of the 42 sounds.

The digital based synthetic phonics instruction is a method of teaching whereby the teacher makes use of digital learning tools and technology such as internet, android phones, laptop, television and computers to engage pupils in learning the letter sounds through fun activities, multi sensory and interactive activities that involves the use of songs, stories, formation, writing, hearing and seeing the various activities (Akpojotor, 2019). This funny, multisensory and interactive feature employed in teaching young children to learn reading could make effective use of digital technology needed for this present information age. It enhances children's scope of educational experiences in the form of audio and visual materials. Hence Schugar, Smith and Schugar (2013) concluded in their findings that kindergarten readers generated a higher level of engagement in reading as a result of the use of digital technologies. In the same vein, Ekpo (2007) carried out a nine month study using synthetic phonics which involves the use of digital technology as an intervention strategy in five (5) schools in Akwa Ibom State, Nigeria. At the end of the study, pupils in the intervention group made a gain of one (1) month to thirty-one (31) months in their reading age while those in the control group did not record any improvement.

Advances in digital technologies are dramatically altering the texts and tools available for teachers and students. Students using digital learning tools and technology become more engaged in the process and more interested in growing their knowledge base. It is far more interactive and memorable than voluminous textbooks or one sided lectures. It also provides a greater sense of perspective and more engaging activities than traditional educational methods. These technological advances have created excitement among many for their potential to be used as instructional tools for literacy education (Biancarosa and Griffiths 2012). One of such technological tools employed for teaching synthetic phonics is the jolly phonics package. This package teaches children the 42 letter sounds by dividing the sounds into seven groups. These sounds are taught in five stages namely: identifying the letter sounds, formation of letters, blending, segmenting/sounding and learning of tricky words for example the first group of letter sounds which comprises of s, a, t, p, l, n, can be used to make seven three letter words such as pin, sat, sit, tin, pat, tip, and sip.

It therefore behooves on the teacher to enhance learning to read using the synthetic phonics instruction by accepting technology and learning how to

use it effectively and appropriately. In a study carried out by Farokhbakht & Nejadansari (2015) which investigated the effect of using synthetic multisensory phonics in teaching literacy on EFL to young learners. The participants in the control group were taught the basic literacy skills through the rote traditional phonics while the learners in the experimental group were taught English literacy via a synthetic multisensory phonics approach which explores the use of digital technologies. The result demonstrated that the experimental group obtained a better performance on the reading and spelling test than the control group. Similarly, Akpojotor (2019) carried out a study on the effect of gender on the academic achievement of pupils exposed to synthetic phonics reading strategy on interest and achievement in reading among pupils. The study revealed that gender did not significantly influence pupils' achievement in reading as measured by the reading achievement test. Thus, Morrison (2014) outlines some guidelines to keep in mind, they include: be willing to try new ways to use technology to help children learn new knowledge and skills; collaborate with colleagues in your school and school district to explore ways to use technology; collaborate with parents and community members who may have skills that can be applied and advocated for and on behalf of gaining access to technology for the classroom and the school. The purpose of this study is to determine the effect of a digital based synthetic phonics reading instruction on pupils reading ability in Asaba, Delta State.

### **Statement of the Problem**

It is the teachers' responsibility to determine how to make use of available technologies to spark pupils learning and imagination. It has been identified that children's inability to read or decode words could be attributed to the poor interest in reading and this has been traced to the ineffective strategies used in teaching reading at the primary school. The obsolete strategy of rote memorization lacks any form of motivation for children who are second language readers and knowledge of vocabulary and word recognition are problematic issues. It is against this backdrop that this paper sought to determine the effect of digital based synthetic phonics reading instruction on children's reading ability.

### **Research Questions**

The study was guided by two research questions:

1. What is the post achievement gain in reading ability of pupils exposed to synthetic phonics reading instruction?

2. What is the post achievement gain in reading ability of male and female pupils exposed to synthetic phonics reading instruction?

In this study, the population was 778 primary one pupils in Oshimili North Local Government Area in the 2017/2018 session. Purposive sampling technique was used to choose Mmehala primary school from the area of study. The sample for this study consists of fifty one (51) pupils from an intact primary one class which comprises of 26 female and 25 male.

The research design was a pre test and post test quasi experimental design. The pupils were tested on word blending and sound identification before and after teaching using a digital- based synthetic phonics instruction.

Sample            | O<sub>1</sub>    | X       | O<sub>2</sub>    |

SAMPLE = Primary one pupils

O<sub>1</sub>= Pre test

X = Synthetic phonics instruction

O<sub>2</sub>= Post test

The experimental procedure for the study involved teaching the 42 letter sounds which were divided into seven groups. Each group of sounds was taught by identifying the sounds in words, storyline associated with sounds of the corresponding sounds were taught using digital technologies. Pre test and post test were used for the achievement test on word recognition and sound identification. The reading achievement test consists of three parts namely section A: which consisted of identification data, section B: has 30 sound identification tests while section C has 20 words reading test. The classroom procedure involved teaching the 42 letter sound by teaching each group of the letter sounds as follows

i.	s	a	t	p	l	n
ii.	ck	e	h	r	m	d
iii.	g	o	u	l	f	b
iv.	ai	j	oa	ie	ee	or
v.	z	w	ng	v	oo	OO
vi.	y	x	ch	sh	th	th
vii.	qu	ou	oi	ue	er	ar

The teacher tells the pupils' stories associated with each sound, show flash cards, do action for each sound and make use of phonics audio and visual sounds and songs from the app in their android phones to make sure sounds are pronounced correctly and children listen and dance to the songs. This is followed by blending CVC sounds to form words for example c-a-t for cat, p-

a-t for pat. Blending involves saying the sounds in a word then running them together to form words. Teacher uses song blending, arm blending and silent blending for example /c/ and /a/ together makes /ca/, /ca/ /ca/ /ca/ when you bring /t/ and put it at the end /ca/ /t/ makes cat. For arm blending teacher raises left arm and uses the right arm to divide the sound into three eg c- a – t and teacher weaved each sound together to form the sound cat. While silent blending involves the teacher using the action of each sound and asking the pupils to say the sound for each action and thereafter say the word.

The data from the pretest and the post test (before and after the treatment) were analyzed by using the Mean and Standard Deviation. The result of the pre test and the post test were used to determine whether there was a gain in reading achievement as a result of digital-based synthetic phonics reading instruction.

**Results**

**Research Question One:** What is the post achievement gain in reading ability of pupils exposed to synthetic phonics reading instruction?

**Table 1: Mean and standard deviation of scores of pupils taught with digital – based synthetic phonics in pre test and post test**

Reading Achievement	N	Pre Test Mean	SD	Post Test Mean	SD	Mean Gain Scores
Initial sound identification	51	27.51	3.14	64.94	7.85	37.43
Word blending	51	27.36	4.95	51.49	6.98	35.13

Result in Table 1 shows pupils had a mean gain score of 37.43 on the initial sound identification and 35.13 on word blending after been exposed to synthetic phonics reading instruction. It is evident that using synthetic phonics instruction has considerable influence on improving the learners reading ability. The result obtained indicated that using synthetic phonics instruction can help learners learn to identify sounds in words and learn to blend words effectively.

**Research Question Two:** What is the post achievement gain in reading ability of male and female pupils exposed to synthetic phonics reading instruction?

**Table 2: Mean and standard deviation of scores of pupils taught with digital – based synthetic phonics based on gender**

<b>Reading Achievement</b>	<b>N</b>	<b>Pre Test Mean</b>	<b>SD</b>	<b>Post Test Mean</b>	<b>SD</b>	<b>Mean Gain Scores</b>
Female	26	42.09	7.97	65.62	6.91	23.53
Male	25	40.97	6.07	64.24	8.81	23.37

Result in Table 2 revealed that female pupils had a higher mean score after been exposed to synthetic phonics reading instruction with a mean gain of 23.53. While the male pupils exposed to synthetic phonics had a mean achievement score of 23.37. Meanwhile, the obtained standard deviation from both male and female pupils was relatively small; indicating that the variation from the mean was small. This was because at all levels of gender, the mean achievement scores were higher for pupils exposed to synthetic phonics.

### **Discussion of Findings**

The purpose of this study was to ascertain the effect of digital – based synthetic phonics instruction on reading ability of primary one pupils' in Delta state. The data presented on table 1 revealed that digital based synthetic phonics enhanced pupils reading ability after treatment. The result showed an increased gain in reading ability of pupils after treatment. The above findings are in tandem with Ekpo (2007), Schugar, Smith and Schugar (2013) and Morrison (2014) who observed that K-6 readers generated higher level of achievement as a result of the audio and visual materials employed in their teaching of reading. Similarly, the findings of this study are in agreement with Farokhbakht & Nejadansari (2015) study which investigated the effect of using synthetic multisensory phonics in teaching literacy on EFL to young learners. The participants in the control group were taught the basic literacy skills through the rote traditional phonics while the learners in the experimental group were taught English literacy via a synthetic multisensory phonics approach which explores the use of digital technologies. The result demonstrated that the experimental group obtained a better performance on the reading and spelling test than the control group. Therefore, the result of this study with regard to primary one pupil's use of digital based synthetic phonics instruction for teaching reading greatly enhanced their reading skills. After teaching, pupils were able to pronounce sounds and blend them together. In addition, the pupils who were skilled in phonics can sound out the words they

have not seen before, without first having to memorize them. It means the pupils have learnt a technique that they can use for themselves.

The data presented on table 2 revealed that digital based synthetic phonics instruction enhanced pupils reading ability irrespective of gender. The obtained standard deviation from both male and female pupils was relatively small which indicated marginal difference in mean scores. This is in tandem with a study carried out by Akpojotor (2019) on the effect of gender on the academic achievement of pupils exposed to synthetic phonics reading strategy on interest and achievement in reading among pupils. The study revealed that gender did not significantly influence pupils' achievement in reading as measured by the reading achievement test. Therefore, the result of this study with regard to reading ability of male and female primary one pupils exposed to digital based synthetic phonics instruction for teaching reading greatly enhanced their reading skills. The result demonstrated that the difference in male and female pupils' achievement was not significant. Therefore, the teacher selected various activities for the pupils such as use of flash cards, colored pictures books, word search games and the phonic app in the android phones for sounds and songs made the pupils to remember and retain the knowledge of words in long term memory and the pupils practiced sound identification and blending of words with fun. Secondly, the teacher played a vital role in the instruction by providing opportunities for them to practice their phonemic awareness through short stories and working in pairs which helped in supporting children whose reading ability is lower by working with pupils with higher reading ability.

### **Conclusion**

The study clearly confirms that digital based synthetic phonics reading instruction is apt in this present age of digital technology. Pupils were interested in this kind of teaching and enjoyed every bit of it. They were engaged in many audio and visual activities which improved their reading skills. Finally, digital based synthetic phonics instruction clearly enhanced pupils' identification of sounds and word blending thus the reading ability of pupils was greatly enhanced by it. More also, gender was not a significant factor on pupils achievement gain. This implies that the synthetic phonics instruction influenced both male and female pupils' interest in reading.

### **Recommendation**

- The use of digital technologies should be emphasized in teaching reading to children at the lower level of learning to enhance their interest in reading.

- Pupils should be made to practice oral reading using digital based synthetic phonics as often as possible to boost their learning competence.
- Workshops should be organized for in-service teachers on the effective use of digital based synthetic phonics reading instruction so that they can successfully incorporate it in their language lessons.

### References

- Akinbote, R. O & Komolafe, A. T (2010). Explicit grammar strategy and primary school pupil's achievement in written English in Ibadan, Nigeria. *European Journal of Scientific Research* 4 (1), 61-63.
- Akpojotor, R.U (2019). Effect of synthetic phonics on pupils interest and achievement in reading among pupils in Oshimili South Local Government Area, Delta State. Unpublished Ph.D Thesis University of Nigeria, Nsukka
- Biancorosa G. & Griffiths G. (2012).Technology tools to support reading in the digital age *Future Child* University of Oregon's College of Education USA. 22 (2) 139-160
- Blaiklock, K., & Haddow, S. (2007). Incorporating phonics within a new Zealand whole language literacy programme. *New Zealand Journal of Educational Studies*, 4 (1-2) 143-159.
- Ekpo, C. M., Udosen, A.A., Afanigideh, M. E., Ekuinam T. U.S Ikorok, M. M. (2007).*Jolly Phonics Strategy and the ESL Pupils Reading Development: Preliminary Study: A Paper Presented at 1<sup>st</sup> Mid Term Conference held at the University of Ibadan Oyo State.*
- Farokhbakht L.& Nejadansari D. (2015) The effect of using synthetic multisensory phonics in teaching literacy on EFL young learners literacy learning. *International Journal of Research studies in education* 4(4)
- Hardy, A. (2017). Impact of synthetic phonics on teaching learners with English as an additional language to read. *British Research Education Council*. Masters dissertation award; Canterbury Christ Church university college [http:// www.academia.EAL](http://www.academia.EAL)
- Johnston, R., & Watson, J.E., (2005). Accelerating reading attainment: the effectiveness of synthetic phonics accessed 25 Jan 2010)
- Morrison G. S (2014).*Early childhood education* New Jersey Pearson Morrison Prentice Hall
- Obidike N. D (2013). *Development of literacy skills, assessment inventory for Nursery/kindergarten teaching in Anambra state*. Unpublished Ph.D Thesis, University of Nigeria, Nsukka.

- Obiweluozo, P.E (2014) Effect of instructional strategy on pupils achievement in mathematics in Enugu State. Unpublished Ph.D Thesis, University of Nigeria, Nsukka
- Ogbonna, I M. (2014). Books, libraries and reading in the digital age. Enugu: Eminota Publishers
- Schugar H. Smith C. and Schugar J. (2013). Teaching with interactive picture e-books in grade K *Reading rockets*. [www.readingrockets.org](http://www.readingrockets.org) tea.
- Sue L. & Sara W. (2009). Jolly phonics parent teachers guide. Jolly learners Ltd. Tailors house high read. Chigwell-essex, IG 760L United Kingdom