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AN INVESTIGATION OF LONG-TERM EFFECT AND EFFECTIVITY OF SYNTHETIC PHONICS ON PUPILS' ENGLISH LANGUAGE LITERACY IN GOMBE STATE.

BY

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Abstract.

A lot of studies have been conducted on the effectiveness of synthetic phonics approach to reading English Language, especially to lower grade learners. Positive impacts of the method have always been found from almost all the studies. This research work tended to investistigate a long-term effect of employing synthetic approach to teaching English Language to tackle literacy problems in Gombe State of Nigeria. The method has been in existence for 7 years (as at the time of this research work) in the area of the study. Its impact had been found to be positive at the early stage of the programme. This work further investigated the long-term impact of the programme in the student's literacy skill. The study also explored the effectiveness the seven-years-old project as a literacy programme in Gombe State of Nigeria. The study employed the use of comparative research method to highlight the difference between phonic-based students and non-phonic students. Finally, the study came out with some suggestions and recommendations to further improve and rectify the weaknesses found from the use of the synthetic phonic methods.

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Key words
Synthetic phonics; the method of identifying sounds of letters in words during
Jolly Phonics; literacy programme using synthetic approach to teach early grade learners
JP students; learners who underwent Jolly Phonics programme
Non-JP students; leraners who did not undergo Jolly Phonics programme
Phonic sounds; identification of letters as sounds
LGA; Local Government Area

Introduction

It is a general and common perception that young people are the most valuable resources for the nation's social and economic prosperity. This youthful stage is the beginning of human life. However, this conception can only be valid, if the young people are well utilized, and this must include investing in them through quality education in order to be useful members of the society. Therefore, providing quality schooling for these young people is believed to be the key to such prosperity. To this end, studies have already established that there is relationship between child's early literacy skills and their academic performance. According to Spear-Swerling, (2002) difficulty in reading soon affects almost every aspect of a child's academic performance. Longitudinal studies (e.g., Juel, 1988) have shown that children with poor reading skills at the end of first grade are unlikely to catch up later on, and are likely to have difficulties in reading throughout their schooling. This led to the introduction of Jolly Phonics across primary schools in Gombe State to curb the effect of poor academic performance by students later. And this must start from taking care of their literacy skill at primary school level, as the foundation for their sound education because "Being able to read is fundamental to individual intellectual development and personal growth" (Mullis et al., 2011).

Despite the great emphasis in literature on the effectiveness of systematic phonics, the developed English Language syllabus still approaches the teaching of reading through whole word reading which is based on the conception that children see words as whole patterns and, therefore, memorize the look of words and learn to associate the printed word with meaning (Hughes, 1976). Approaches that adopt a whole word (or meaning) emphasis towards literacy development come under the umbrella of whole language (Hempenstall, 1997) which emphasizes the use of authentic texts for students to read (Vacca, J., Vacca, R., & Gove, 2000).

Weaver (2002), is of the belief that throughout lower primary school, pupils learn to write letters in addition to some copying activities. The second aspect is that whole word reading is a meaning-based approach. Based on field observations, meaning is considered a weakness for pupils who come to formal schooling with very limited vocabulary in English. The now traditional holistic approach emphasizing meaning would seem to focus on their potentially weakest area. Asking a student in primary one pupil to read and comprehend stories without systematic teaching of phonics is a very demanding and frustrating experience. In contrast, introducing reading through a program of systematic synthetic phonics should capitalize on their strengths.

This is why Gombe SUBEB have exerted

efforts by employing Jolly Phonics programme towards the improvement of teaching and learning practices that are linked directly to quality schooling. The method is commonly known as Jolly Phonics (from the name of the programme) across primary schools in Nigeria, but it is a synthetic phonic approach of teaching reading and writing in English language. It is accepted by UBEC and SUBEB to be employed in the schools which teachers received training in Jolly Phonics and execute the method for Teaching English literacy. Because the method needs proper training of teachers to be implemented, it is also included into National Commission for Colleges of Education (NCCE) new minimum standard, so that all NCE holder of English language will be equipped with the skill of handling teaching Language through synthetic phonics approach.

Therefore, after six years of Jolly Phonics programme in Gombe State, this study dug out its successes or otherwise based long-term effect, which determined the effectivity of the programme, on the literacy skills of the target audience in Gombe State. This was because Jolly phonics could be one time programme, but its effect is expected to be long-term on the learners, and should be perpetuated, as it is found helpful.

The project contract between Gombe SUBEB and the coordinating organization (ULS) is elapsing in this year, and the programme, may consequently ended. Consequently, the use of the synthetic phonics approach in teaching early grade reading and writing may be abandoned soon. However, as it is found helpful and with positive impact or long-term effect is discovered from the programme, the method needs to be adopted and accumulated further across all primary schools of the nation as a whole by considering it as a method of teaching English literacy in the national curriculum.

LITERATURE REVIEW

Introduction.

When we read, the print fills our minds with words and meanings. Words are the basic units that readers' eyes pick and process to construct meaning (Ehri, 1998). When we read unfamiliar words, we use decoding, analogy and prediction. With practice, these words become familiar and learners read them automatically by sight. Sight reading, is one way of reading words and is considered the most efficient one. According to Ehri (1998), the development of sight word reading is characterized by phases that reflect the reader's working knowledge of the alphabetic system. Over the past years, educators have disagreed about how we should start beginning reading instruction. Some have advocated starting with the systematic teaching of phonics, the basic elements in words, while others argue that once children recognize words as a whole, knowledge of letter- sounds will follow. Since this study is primarily concerned with investigating the effectiveness of integrating synthetic phonics instruction within "English studies" syllabus in Gombe State, the theories underlying phonics and whole word instruction will be revied followed by the review of related works on the effect of phonics approach to reading in early years of learners.

Conceptual Framework.

Information about word learning processes clarifies the locus of difficulties that students have in learning to read words. In addition, this information can assist teachers in understanding and interpreting the word reading behaviors they see in delayed readers

who face difficulties because of lack of adequate instruction and in disabled readers who are thought to have a processing deficiency (Ehri, 2020).

In 1996, Jeanne Chall also outlined six stages in which reading develops over time. The first three stages are often referred to as the 'learning to read' stages and the final three stages are considered the 'reading to learn' stages (Vacca et al, 2000). In fact, the first three stages are, somehow, similar to Ehri's phases of sight word development. According to Ebert (2009), Chall's Model presents a unique development model addressing major milestones from birth to adulthood as individuals learn about written language. However, her model remains broad and doesn't explain how specific skills development affects word recognition (Ebert, 2009).

One of the most important implications of Ehri's phases of reading that is relevant to the present study is that teachers should help all children to achieve the full alphabetic phase by the first grade. The major grapheme-phoneme connections, particularly those involving vowels are also needed (Ehri, L. & McCormick, S. 2005). This, actually, highlights the significance of systematic teaching of phonics in early grades.

Despite many supportive concepts on importance of phonics approach in improving literacy at early stage, Kwan (2005) holds that in literature, phonics instruction of any kind would disadvantage ESL children. The two primary reasons given for this belief are: i), ESL children would face difficulty attending to non-native phonemes and ii), phonics instruction will limit chances for ESL learners during the school day to engage in oral language rich activities. This conception was countered by Ghattas (2011) by arguing that phonological awareness is a cognitive factor rather than being a language specific. Hence not the phonics approach not negatively affect the ESL learners, as the majority of sounds in both their L1 and the target language are similar, and only few differs. In this case, Chitulu and Njemanze, (2015), concluded from their study that Nigerian "pupils" were able to produce most of the English phonics except for the few. And Nigerian speakers of English substitute the sound they don't have with the nearest sound in their languages while using English.

Empirical Review

Connelly, Johnston and Thompson (2001), argued that six-year-old pupils who were taught using phonics were able to outperform their counterparts who were taught using the book experience in reading comprehension. Evidence from study conducted by Naning Tri Wahyuni, (2022) in Switzerland shows a significance in improving the students' pronunciation and comprehension skills through exposing them to synthetic approach.

Ashbridge (2018), pointed out that 81% of pupils exposed to Jolly Phonics in the UK, "met the expected standard at the end of year 1 in 2017. And "by the end of year 2018, 92% met the standard, which was an 11%-point increase". ULS (2018) also showed that there is a significant achievement in pupils' literacy across Kwara State, Zamfara State and Sokoto State in Northern Nigeria in JP schools, compared to non-JP schools in 2017 project.

(Amadi, 2020) pointed out that Synthetic phonics significantly enhanced pupils' interest in reading more than analytic phonics. Hence, the use of the method would produce positive effect in stimulating and

sustaining pupils' interest in reading more than analytic phonics. And therefore, recommended it over other methods of teaching reading and writing. In order to determine the long-term effects of synthetic phonics when compared to analytic phonics, Johnston, McGeown and Watson (2011) conducted a study and compared the literacy skills of pupils from the synthetic phonics taught sample with pupils who had learnt by an analytic phonics method. It was found that, after 6 years at school, pupils taught by the synthetic phonics method read words, spelt words and had reading comprehension skills significantly in advance of those taught by the analytic phonics method.

In Nigeria, after conducted a study to investigate pupils' reading ability using phonics approach, ULS (2018) concluded that primary 1 & 2 pupils' performance was at the acceptable level of performance most of the sounds and word reading. However, (Hameadat and Yunus,2018) discovered that most of EFL teachers lack of basic knowledge of the synthetic phonics and they showed no or very little recognition of the way synthetic phonics is taught nor the way it is assessed. EFL teachers proved their need to more professional training courses that promote their capacities to teach English the right way.

Al-Sukaiti1 and Al-Bulushi, (2021) also have discovered that EFL teachers in Jordan needs enough training to take care of the Phonics approach, otherwise the approach cannot be utilized in an EFL setting. This means teachers in Gombe State needs significantly enough training to take care of Jolly Phonics programme in their schools otherwise, the programme might have likely failed for poor training.

In order to determine the long-term effects of synthetic phonics when compared to analytic phonics, Johnston, McGeown and Watson (2011) conducted a study in which they aimed to compare the literacy skills of boys and girls from the synthetic phonics taught sample (see Johnston & Watson, 2004, Experiment 1) at the age of 10 with boys and girls who had learnt by an analytic phonics method. It was found that, after 6 years at school, children taught by the synthetic phonics method read words, spelt words and had reading comprehension skills significantly in advance of those taught by the analytic phonics method.

Stewart (2011), in a quasi- experimental study, investigated whether first grade struggling readers, those who score below the 30th percentile, will make greater progress in decoding skills with phonics instruction that is based on a highly systematic and multisensory instructional approach than struggling readers using a traditional design. This shows a significant effect of employing the phonics approach in teaching the early grade reading skills, which improve their academic performance not only in English language, but also in other areas of academic pursuance

In an experiment conducted by Watson & Johnston (2004), the synthetic phonics program was taught to the analytic phonics groups after their initial program had been completed and then students were post-tested. The group that had had the initial synthetic phonics program consolidated their learning during this time largely concentrating on spelling words with a variety of orthographic structures. A second post-test was carried out 15 months after the end of the original program. Watson and Johnston (2004) found out that the synthetic

phonics group still read and spelt better than the analytic phonics group. They concluded that synthetic phonics was more effective than analytic phonics, and that with synthetic phonics it was not necessary to carry out supplementary training in phonological awareness.

METHODOLOGY

Area of the study and Sampling Technique.

This research work based its study on upper primary pupils and junior secondary school students within Gombe State. The study included all the 11 Local Government Areas of the state. three (3) schools; one primary school and two Junior Secondary Schools from each of the eleven (11) Local Govt. Areas were selected using quota sampling technique. The target respondents included students who had gone through Jolly Phonics programme in their primary 1 and 2, as well as those who hadn't experienced synthetic approach of teaching English Language. Phonic test was administered to determine the required category of each respondent.

Research Design

This study involved two intact comparison groups. The experimental group was JP Students (the learners who had undergone systematic synthetic phonics method within the 'English Studies in their primary 1 & 2) while the control group was non-JP students (the learners who had not experienced phonic approach of teaching reading before the research). To avoid experimental imbalance, the researcher decided not to let the teachers beware that their pupils' attainment was to assessed. Therefore, the research instruments employed the use of Phonic test that was given to the respondents to determine their test group. BURT reading test and passage reading comprehension was used to investigate the equivalence of the experimental and the control group using the independent samples.

Research Instruments

Three instruments were used in the present study:

1. Phonics sound test was conducted by displaying the 44 sounds to the respondents to determine whether they underwent Jolly Phonics or not.
2. BURT reading test was used to assess the pupils' reading ability; there is 110 sets of words to be displayed to the pupil for reading assessment, and BURT to reading age conversion sheet was used to determine the reading age.
3. A passage was administered to the respondents for testing the respondents' reading comprehension.

Research Methods.

The study sought to use multiple methods of collecting data, such as questionnaire to the school managers, structured reading and writing tests and interviews to the target respondents to get the required outcome from the respondents, and Burt reading test and passage comprehension was employed for this purpose.

Data Analysis.

Comparison of the respondents' scores of the tests conducted using simple average between the two categories of the respondents was used for analysis, and simple variance of the statistical data was used to discuss the range of the differences.

FINDINGS

This study implored into the present effect of synthetic phonics approach employed in teaching reading and writing since 2016/2017 sessions in primary schools on the learners through Jolly Phonic programme in Gombe State. It dug out to and got the positive long-term effect of the synthetic phonic approach

as delivered by the Universal Learning Solutions through Jolly Phonics Programme. The study also investigated the effectivity of Jolly Phonics programme as it was conducted around primary school in ECCD classes, primary 1, primary 2 and primary 3 from 2016 to date. This found out ways to adapt, develop, retain and improve the use of the approach for better and improved educational goals, as the Jolly Phonics programme is ending soon in Gombe State.

There were 3 different tests conducted to identify the performance of each category of students, and the average points were recorded in table 1, 2 and 3. Table 1 was the record of the students' phonic sound knowledge. This gave the researcher an insight of those students who received synthetic phonics approaches in their early grades, and those students who had not pass through the synthetic phonics approach in their early grades. Table 2 was the data from word reading test. In this case only the students' reading ability was tested. In table 3, the results of the students' reading comprehension was recorded. This was to determine the comprehensive ability of the students after reading texts. In all the three tables, the results obtained from JP students was used to compare the results obtained from Non-JP student. The results were recorded as the average in points earned and the average percentage from each of the eleven Local Government Areas.

Below are the recorded average scores for each of the eleven Local Government Areas.

1. Results of the students' phonic sounds knowledge

Table 1. Phonics test results

		Average scores out of 44 points				JP to Non-JP difference in reading		Favoured
		Non-JP Students		JP Students				
SN	LGA	Point	Percentage	Point	Percentage	Point	Percentage	Group
1	Akko	3	6.8%	25	56.8%	22	78.6%	JP
2	Balanga	2	4.5%	29	65.9%	27	87.1%	JP
3	Billiri	1	2.3%	28	63.6%	27	93.1%	JP
4	Dukku	1	2.3%	26	59.1%	25	92.6%	JP
5	Funakaye	1	2.3%	24	54.5%	23	92.0%	JP
6	Gombe	3	6.8%	30	68.2%	27	81.8%	JP
7	Kaltungo	2	4.5%	28	63.6%	26	86.7%	JP
8	Kwami	1	2.3%	23	52.3%	22	91.7%	JP
9	Nafada	1	2.3%	24	54.5%	23	92.0%	JP
10	Shongom	2	4.5%	25	56.8%	23	85.2%	JP
11	Yamaltu/Deba	3	6.8%	26	59.1%	23	79.3%	JP group
Grand Average		**1.8**	**4.1%**	**26.2**	**59.5%**	**24.4**	**87.3%**	**JP**

Table 1 shows the results of phonics test given to the students to determine their groups. Students with no knowledge of phonic sounds were categorized in the non-JP group, while the students with phonics sound knowledge were categorized in the JP group. The researcher arbitrarily chose the cutoff score of 5 phonics sound knowledge, where the respondents with score below 5 were grouped in the Non-JP group, while respondents with score above 5 are grouped into the JP group.

It is obvious and clear, from the data collected, that non-JP students could not identify letters as phonic sounds. From the table it is found that there is wide average score difference between the JP and the Non-JP groups. The grand average score across all the 33 schools in the state shows that the Non-JP group has average score of 1.8 phonic sound knowledge, JP group had average score of 26.2 phonics sound knowledge, and the average score difference between the 2 groups is 24.4 phonics sound. This means the Non-JP group was 24.4 letter sounds knowledge short of their JP group counterparts. It was obvious that their unawareness of phonic sounds was as a result of their lacking experience of receiving literacy skills through synthetic phonics approach of teaching. This means other methods of teaching reading were applied on them. Hence, this category was placed in the Non-JP group to be compared with the students who received literacy skills through synthetic phonics approach.

The percentage difference between the two study groups is 87%; Non-JP group has knowledge of 4.1% of all the English Phonics sound, the JP group had knowledge of 59.5% of all the 44 English phonic sounds. The difference in this case is so clear as to determine the category for each student for comparison in their reading ability and reading comprehension.

This categorization was used by the researcher to place each student into the appropriate group according to their knowledge of the English phonics sounds, to further carry out the research.

2. Results of the students' reading ability.

Table 2. Burt reading test results

		Average scores out of 110 points						JP to Non-JP difference in reading		
		Non-JP Students' reading			JP Students' reading					Favoured
SN	LGA	Point	Age	Percentage	Point	Age	Percentage	Age	Percentage	Students
1	Akko	25	6.5	22.7%	75	10.9	68.2%	4.4	25%	JP
2	Balanga	18	6.1	16.4%	64	9.7	58.2%	3.6	23%	JP
3	Billiri	20	6.2	18.2%	73	10.6	66.4%	4.4	26%	JP
4	Dukku	19	6.1	17.3%	70	10.2	63.6%	4.1	25%	JP
5	Funakaye	21	6.2	19.1%	69	10.1	62.7%	4.1	25%	JP

6	Gombe	30	6.9	27.3%	81	11.4	73.6%	4.7	26%	JP
7	Kaltungo	29	6.8	26.4%	71	10.3	64.5%	3.7	22%	JP
8	Kwami	19	6.1	17.3%	69	10.1	62.7%	4	25%	JP
9	Nafada	18	6.1	16.4%	65	9.8	59.1%	3.7	23%	JP
10	Shongom	20	6.2	18.2%	63	9.6	57.3%	3.4	22%	JP
11	Yamaltu/Deba	22	6.3	20.0%	69	10.1	62.7%	3.10	19%	JP
Grand Average		**21.91**	**6.3**	**19.9%**	**69.91**	**10.2**	**63.6%**	**3.11**	**24%**	**JP**

NB: *In reading age, the whole numbers and decimals denote years and months respectively*

Table 2 shows the result of reading test from the scores obtained using Burt reading test technique. Burt reading age conversion schedule is used to determine the reading ages of all the respondents. In the table, it observed that the grand average reading age of all the Non-JP respondents across the 33 schools selected in the state was 6 years 3 months, with respondents from Gombe LGA having highest reading age of 6 years 9 months. This shows a significant difference between the students who received Jolly Phonics in their early grade and the students who did not receive Jolly Phonics in their early grade.

In all the 11 LGAs of Gombe State, there is a significant difference between the reading ages of JP students and the Non-JP students in favour of the JP students. The data presented in the table shows the average difference of 4 years 4 months in Akko LGA, 3 years 6 months in Balanga LGA, 4 year 4 months in Billiri LGA, 4 years 1 month in Dukku LGA, 4 years 1 month in Funakaye LGA, 4 years 7 months in Gombe LGA, 3 years 7 months in Kaltungo LGA, 4 years in Kwami LGA, 3 years 7 months in Nafada LGA, 3 years 4 months in Shomgom LGA, and 3 years 10 months in Yamaltu/Deba LGA. It is noted that none of the eleven Local Government Areas recorded a reading age difference in favour of Non-JP students.

Percentage difference in the students reading age recorded a significant difference with 26% highest as found in Gombe LGA and 19% lowest in Yamaltu/Deba LGA, both in favour of the JP students.

According the data in this table, the average reading age of Non-JP respondents students was 6 years 3 months, while the average reading age of the JP respondents was 10 years 2 months. This indicated that there was reading age difference of 3 years 11 months between the JP and Non-JP students in favour of the JP students across the study area.

3. Results of students' reading comprehension

Table 3. Reading comprehension results

SN	LGA	Average scores out of 8 points				JP to Non-JP difference in reading		Favoured Students
		Non-JP Students		JP Students				
		Point	Percentage	Point	Percentage	Point	Percentage	
1	Akko	3	37.5%	6	75%	3	33%	JP
2	Balanga	3	37.5%	6	75%	3	33%	JP
3	Billiri	3	37.5%	7	88%	4	40%	JP
4	Dukku	2	25.0%	6	75%	4	50%	JP
5	Funakaye	2	25.0%	5	63%	3	43%	JP
6	Gombe	4	50.0%	7	88%	3	27%	JP
7	Kaltungo	4	50.0%	6	75%	2	20%	JP
8	Kwami	3	37.5%	5	63%	2	25%	JP
9	Nafada	2	25.0%	5	63%	3	43%	JP
10	Shongom	2	25.0%	5	63%	3	43%	JP
11	Yamaltu/Deba	3	37.5%	5	63%	2	25%	JP
Grand Average		**2.8**	**35%**	**5.7**	**72%**	**2.9**	**35%**	**JP**

Table 3 shows the results of reading comprehension from responses recorded by the researcher. After reading a passage followed by 4 questions, the scores presented in the table above represents the correct response from the students.

There was average difference of 3 points in Akko LGA, 3 points in Balanga LGA, 4 points in Billiri LGA, 4 points in Dukku LGA. 3 points in Funakaye LGA, 3 points in Gombe LGA, 2 points in Kaltungo LGA, 2 points in Kwami LGA, 3 points in Nafada LGA, 3 points in Shongom LGA, and an average difference of 2 points in Yamaltu/Deba LGA, all in favour of JP students.

The percentage difference shows a highest difference in Dukku LGA with 50% average difference between the JP and the Non-JP students. In Kaltungo LGA, the lowest percentage average difference of 20% was recorded. However, both the two LGAs, the difference was in favour of the JP students.

The data in the table shows a significant average difference score of 2.9 points between the JP students and their Non-JP counterparts in favour of the JP students; Non-JP students had average score of 2.8 points, while the JP students had average score of 5.7 points from their reading comprehension.

While Non-JP students' percentage score was 35%, their JP counterpart had 72% in reading comprehension. The percentage difference between the JP students and the Non-JP students was 35% in favour of the JP students.

CONCLUSION

In conclusion, the results obtained from the three questions clearly supports the view that Synthetic Phonics integration into English Language syllabus as method of teaching literacy helps significantly as we found significant differences between students who received Synthetic Phonics approach as a method of teaching and the students who didn't receive Synthetic Phonics. And in all, the results favoured JP students with a wide gap. However, according to Gombe State Jolly Phonics Monitoring Team (2019/2020 Project) the result did not meet the target of the project. This might be possibly because Jolly Phonics is not effectively implemented by the teachers in the school, the reason which needs further investigation to find out. Note that the target for Jolly Phonics project was 75%, and none of the scores was close to that figure.

RECCOMMENDATIONS

In the light of the current study, some recommendations are put for further studies.

1. As the result of this study shows a significant correlation between employing synthetic phonic approach in teaching literacy at early grade to students' reading comprehension later in their later academic endeavour, the Jolly Phonic programme is worth retaining and maintaining to improve overall students' reading comprehension in English Language.
2. This study investigated the long-term effect of Jolly Phonics program on developing early reading skills, and it proved useful. Future studies may compare the effectiveness of other systematic phonics programs to the Jolly Phonics program on developing early reading skills in order to determine the best phonics program that fits within our primary schools.
3. Future studies on the integration and effectiveness of Jolly Phonics program may need to explore in greater details the impact of program delivery in terms of frequency and duration.
4. The students participated in this study were from Gombe State only. The study could be extended to cover students from other states of the federation of Nigeria.
5. This study investigated the long-term effect of integrating Jolly Phonics program on developing phonemic awareness, phonics identification, word reading skills and reading comprehension. A similar study could be conducted to investigate its impact on other areas in the students' academic performances
6. It would be beneficial to continue to follow the cohorts for a longer period of time, to determine whether the integration of Jolly Phonics continues to affect literacy achievement as pupils mature.
7. This study showed a positive correlation between phonemic awareness and word reading and reading comprehension. It is recommended, therefore, to go one step further and investigate the effectiveness of Jolly Phonics training on reading comprehension.
8. It would be also useful to investigate gender differences in relation to reading achievement following the

implementation of synthetic phonics instruction.

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