

Optimalpath Consulting Limited, UK

INTERVENTION FOR STRUGGLING READERS

(Jolly Buddies Pilot Project in Winneba, Ghana)

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BY

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Acknowledgement

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Project Team

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Project Mentor: Roberta E A. Abanyie

Project Support: Alexandra Ferrier

Background

Synthetic phonics has long been recognised as an effective way to teach young children to read and write. It has been included in the UK's national curriculum since 2007 and research into reading progress using synthetic phonics has been largely positive. The process involves breaking language down into the sounds required to pronounce words. Those sounds are then taught to children with the corresponding letter or combination of letters. The children learn to sound out each part of the word, or to "decode" the letters into sounds. For example, the word "desk" is broken down into four distinct sounds:

d – e – s – k.

The pupils learn each sound individually and are then taught to blend the sounds together to read the words fluently.

Jolly Learning Ltd, an educational resources company from the UK, created the very popular Jolly Phonics series that is widely used in the UK and around the world. The series uses a combination of stories, songs and actions to teach each of the 42 letter sounds covered in the course. Additionally, Jolly Phonics helps children to master the "Tricky Words", words which are not phonically regular and cannot be decoded using the letter sounds. This helps children to build a wide reading vocabulary that enables them to read confidently and fluently.

For this project, a Jolly Phonics Extra Kit was given to each participating school. This kit consists of:

- A TalkingPEN
- Letter Sounds Book
- Jolly Phonics Extra Flash Cards
- Pupils Books and Teacher's Book
- Jolly Phonics Extra Readers

The TalkingPEN is a battery-powered teaching aid that can pair with the Letter Sounds Book, Flash Cards and Readers. The user touches the PEN to the letter sound or word and the TalkingPEN will speak the word. It is extremely useful for the pupils in this study, as they are able to self-check and self-correct when they are not sure of something.

What is a Jolly Buddies pilot?

Usually, Jolly Phonics is aimed at children who are in their first years of primary school, aged between four and six. The researchers wanted to investigate the possibility of using Jolly Phonics with older pupils who were struggling to read. The method involved training older

struggling readers in Jolly Phonics sounds, songs and actions, and introducing them to the teaching materials. These older children would then act as a teacher, or Jolly Buddy, to a younger struggling reader. This gave the older children the motivation to engage with the materials and study hard so that they could help their younger buddies.

A 2007 study carried out in the UK concluded, among other things, that:

- reading partnerships can be very effective, provided that appropriate training is given
- interventions of one term are sufficient to produce significant gains in literacy
- follow-up studies showed that in the majority of interventions, most pupils maintained their gains in literacy and some even improved on them independently

The Jolly Buddy researchers were keen to see if they could replicate the findings of this research from UK schools in developing countries. A previous study used the Kit in Nigeria and had positive results in terms of increasing children's reading ages. The team behind the Nigerian trial were interested to see if the findings could be replicated in another setting.

Literature review

There is a wealth of literature available about the effects of early interventions in literacy. Much of the research done in the UK in recent years has looked at the impact of synthetic phonics and teaching phonological awareness in the early years of primary school. Much less research exists which looks at interventions in older readers, particularly where phonics is involved. By and large, the literature available on early phonics-based interventions concludes that a programme of phonics can produce excellent results faster than with standard whole word teaching approaches. This review examines some of the most relevant publications in more detail.

One of the most pivotal pieces of research carried out in the UK was done in Clackmannanshire, Scotland. The initial study followed Primary 1 children and found them to be, on average, 11 months ahead of their chronological age for reading, and 14 months ahead for spelling after three terms of daily synthetic phonics teaching (Jolly Phonics, 2011). The schools involved used the Jolly Phonics syllabus. The authors of this report then decided to carry out a longitudinal study that followed a cohort of children for seven years in mainly disadvantaged schools. This extremely comprehensive study looked at gender and socioeconomic status, as well as the differences in attainment between the children who were taught synthetic phonics and those who were taught using analytic phonics.

A later study found that overall, the synthetic phonics group was about seven months ahead of the groups taught with analytical phonics. Boys were consistently ahead of girls in achievement for both word reading and spelling, although there was no discernible difference in reading comprehension skills. By the end of Primary 7, the study noted that those children from more disadvantaged backgrounds were beginning to fall behind, having

achieved on a par with children from higher socioeconomic backgrounds for the previous six years. However, those taught with synthetic phonics were still ahead of their chronological age for word reading (3 years and six months), spelling (1 year and 8 months) and comprehension (3.5 months) (Scottish Executive, 2005). This suggests that synthetic phonics can bring parity of achievement to children from different backgrounds.

This point is also highlighted in another longitudinal study from the UK, where the researcher followed children from Reception all the way to the end of Year 6, as they moved to secondary school. The systematic synthetic phonics method used in the school gave a “flying start” to the children there, enabling 94% of the cohort to begin secondary school at or above the expected level for literacy in the UK. The *lowest* achieving group was reading 13 months ahead of chronological age and was 11 months ahead for spelling. The author of the report also makes a note of the fact that the phonics programme was effective as a catch-up method for slower starters, and that overall the school required fewer special educational needs services by the end of the study (Grant, 2014).

A 2012 report, commissioned by the UK Department for Education on literacy and numeracy interventions, made several key conclusions about the efficacy of literacy interventions which aim to improve the reading, writing and spelling skills of pupils. Among the report’s findings were that interventions of one term were sufficient to produce a “good impact”, defined as doubling a pupil’s standard rate of progress. The report also noted that if there was no literacy intervention, pupils with literacy difficulties would not be able to catch up (Department for Education, 2012).

The report cited numerous studies from the UK and drew its conclusions from them. The government report highlighted what was effective in teaching pupils who were struggling with literacy:

- early intervention
- one to one or small group support
- co-operative learning

The Jolly Buddies pilot programme aims to provide small group and one on one instruction to pupils. However, as some of these children are already close to the end of their primary school careers, the chance for early intervention has already passed. The nature of the programme means that co-operative learning is actively encouraged.

The government report also singled out the success that has been achieved in America and Scotland with the Peer Assisted Learning Strategy, where higher and lower achieving pupils are paired together as coaches and players. This is a key plank of the Jolly Buddy philosophy, where older pupils work together with younger children to coach them in reading, and at the same time improve their own reading skills.

The National Educational Psychological Service, from Ireland, published a report in 2012 which cited a 2008 study in an Irish secondary school that had used a peer reading scheme.

This study found that it was the helpers who made the most progress, rather than the children they were coaching. The same NEPS report highlighted the success of a phonics programme that has many similarities with the Jolly Buddies programme. It used daily, structured sessions to teach phonics skills, as does the Jolly Buddy scheme. The gains in the Irish programme were very promising, with some pupils making gains of three years in reading age after only three months of participation (NEPS, 2012). There is clear precedent for successful interventions with struggling readers, using peer teaching to strengthen phonics awareness and build literacy skills.

As this study was carried out in a Second Language context, it is important to consider research conducted in similar settings. A recent piece of research done in Hyderabad, India, showed that in the short term, phonics produces greater results in terms of achievement than rote learning. Children who had daily instruction in phonics for six months and were then tested in spelling and reading to see how their levels had changed. It was found that the experimental group had increased in reading age by 13 months and in spelling by 12 months. In contrast, the control groups, who had continued with the typical rote learning instruction, had made gains of about 0.7 years (Dixon, Tooley and Hunt, 2006).

The findings from this study are supported by work done in Nigeria in recent years. A study from Cross River State, Nigeria, found that after one full academic year, children taught with the Jolly Phonics method significantly outperformed children taught with standard alphabet and whole word teaching in every area, except for letter name knowledge (Inaja et al.). A report from the University of Uyo, looking at schools in Akwa Ibom state, also found that children taught with phonics were scoring much higher at the end of their first year in primary school. In addition, the study noted that children from urban areas did better than those from rural areas (Ekpo et al, 2007). Another study from Nigeria, this time lasting six months, found that the two groups taught with synthetic phonics outperformed the two control groups taught with traditional rote learning methods in every area other than spelling. The author attributes this to the phonics children not having been taught the alternative spellings for many words, something that usually happens towards the end of the academic year (Eshiet, 2014).

The available research seems to support the logic of using synthetic phonics programmes to deliver improvements in English language literacy in a variety of different settings, for countries around the world. Each report concludes that children taught with a synthetic phonics programme perform better in tests for reading and spelling than those taught with traditional whole word methods. Some studies have also found evidence to suggest that children in phonics programmes progress more quickly, and that these gains last until the end of primary school. More research is needed on the potential benefits for older children using a buddy programme, something that this study aims to address.

The setting

Basic education in Ghana is compulsory and free. Children must enrol in school and complete a minimum of eleven years of schooling, from the ages of four to fifteen. This includes kindergarten, primary school and junior high school. At the age of fifteen, students must sit exams for the Basic Education Certificate (BECE). Literacy in English is essential to ensure academic success at this level and to enable students to attend senior high school and further education.

Ghana is a regional leader in literacy rates and primary school enrolment. In 2011, 84% of children were enrolled to start compulsory education, significantly higher than most other sub-Saharan countries. In 2010, the adult literacy rate stood at 71.5% and literacy among the age group 15-24 year olds was even higher, at 81%. Males within this age range are slightly more likely to be literate, at 82%, than females, at 80%. However, when compared to literacy rates around the world, these statistics show a grim reality of literacy rates in Ghana and why improving literacy rates even further remains a priority for the Ghana Education Service.

Project specifics

Teacher training

12 teachers from six schools (three rural and three urban), 6 Head Teachers, and 11 Education Officers were given two days' training in the use of the Jolly Phonics and Jolly Phonics Extra Kit. Half of Day 1 training focused on the 5 basic skills of teaching with Jolly Phonics and also the alternative spellings. The second half of the day and Day 2 were spent giving the teachers training in the Jolly Buddies intervention scheme.

Figure 1: Teachers, trainers, and District Education Officers



By some twist in communication, the 60 pupils who would be the recipients of the intervention were part of Day 1 training. However, this turned out to be an advantage as the pupils had the opportunity to improve their knowledge of the 42 letter sounds and practice how to use the Jolly Phonics Extra Kit.

Prior to the training, teachers were advised to select struggling readers who would participate in the intervention. The project Mentor applied the Burt Reading Test on the pupils. Pupils aged six, seven and eight years old (Younger Buddies) were partnered with pupils aged ten and eleven (Older Buddies). In total, 60 pupils were involved at the start of the intervention across three government schools in Winneba Schools District, Ghana. The intervention ran for three months, the first half of the three months was in late second term and the second half was in the first half of the third term. This meant that Easter Break occurred half way through the project.

However, only 51 pupils were available for the post-test. As such, data relating to the 51 pupils will be presented.

Table 1: Demographic Information of Pupils

Demographics	Categories	Frequency (Count)	Percent (%)
Gender	Female	30	58.8
	Male	21	41.2
Age (in years)	6	2	3.9
	7	12	23.5
	8	10	19.6
	10	11	21.6
	11	16	31.4
Buddy Type	Younger	24	47.1
	Older	27	52.9
School Location	Rural	27	52.9
	Urban	24	47.1
Total		51	100

Table 1 shows the demographics of the pupils involved in the intervention. 30 female and 21 male pupils; 24 younger buddies and 27 older buddies; 27 pupils were from urban schools while 24 were from rural schools.

Teachers appreciated the training greatly and looked forward to helping their struggling pupils achieve because of the intervention. They expressed gratitude to Jolly Learning, the trainers and their District for giving them the opportunity to be a part of the training. Two teachers who had received training in Jolly Phonics ‘sneaked in’ even though their schools were not invited. Their reason was that they heard about another good project coming into their district and would not like their pupils to miss out on it. The teachers formed a WhatsApp group as a means of peer mentoring. Good enough, they invited the Project Mentor into the group. The Lead Trainer was also invited to the group.

Pre-test

Burt Test

As mentioned earlier, the pupils were given the Burt Reading Test. The reading age was calculated in months. Table 2 below shows the reading ages of younger and older buddies at pre-test.

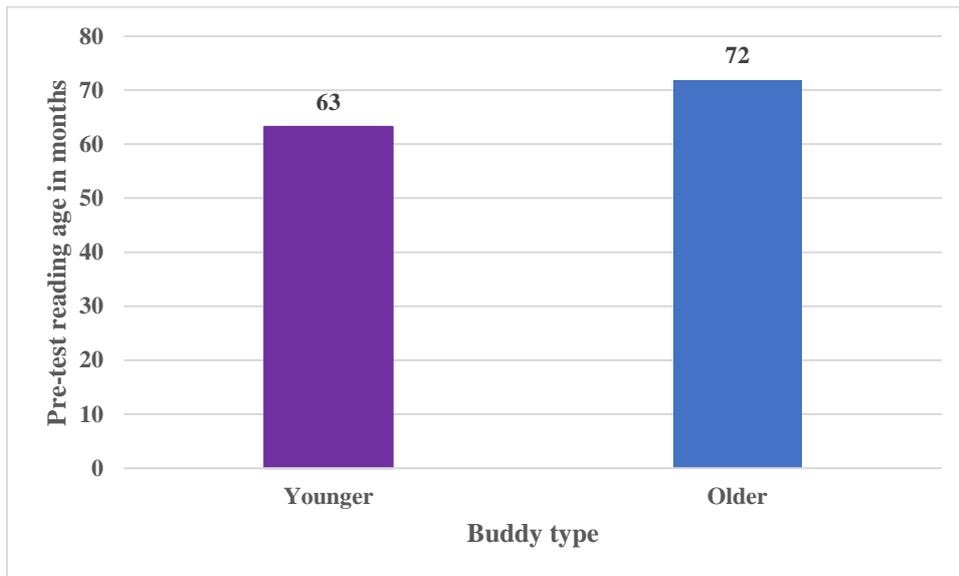
Table 2: Pre-test Reading Age of older and younger buddies

Buddy type	Mean	N	Minimum	Maximum	Mean difference
Younger	63	24	60	75	9
Older	72	27	60	84	
Total	68	51	60	84	

At pre-test, the reading age of the older buddy on average was 72 months; that is on the average, 10-11-year-old pupils were reading at the level of six year olds. The average reading age of younger buddies was 63 months showing that on the average, pupils whose average chronological age was 7 years were reading at the level of children 5 years and three months. Both categories of pupils were reading below their chronological age. This was not surprising as the intervention is for struggling readers and teachers had been instructed to select struggling readers for the intervention.

This is further depicted by Figure 1 below.

Figure 2: Mean of Pre-test Reading Age of older and younger buddies



Gender

At the pre-test, gender had no effect on the reading age for both older and younger buddies (see Table 3 below).

Table 3: Pre-test reading age by gender

Buddy type	Gender	Mean	N	Std. Deviation	Median	Minimum	Maximum	Mean difference	t value	p value
Younger	Female	63	13	5	60	60	75	0	0.01	0.785
	Male	63	11	5	60	60	74			
	Total	63	24	5	60	60	75			
Older	Female	72	17	8	73	60	84	0	0.96	0.918
	Male	72	10	6	71	63	81			
	Total	72	27	7	72	60	84			

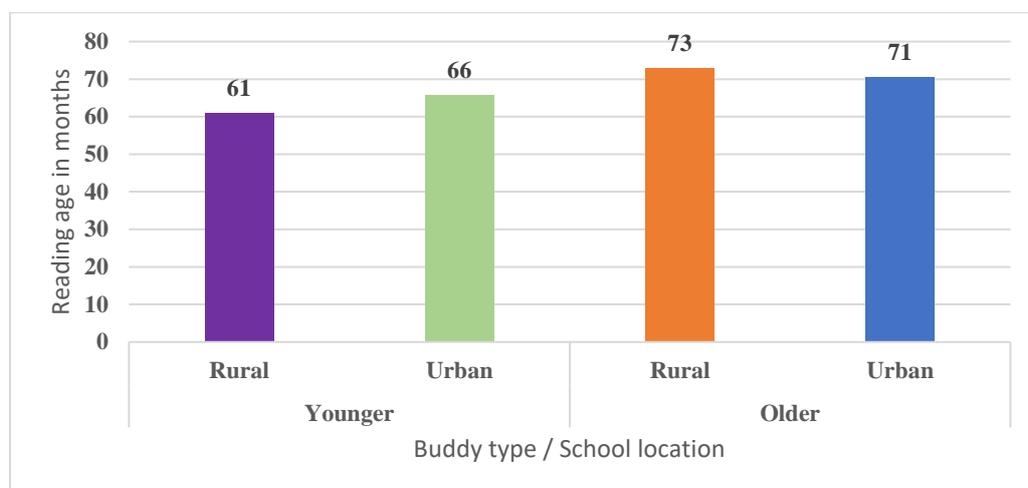
School Location

Younger buddies from urban school area had a significantly higher reading age on average compared to their rural counterparts; 66 months against 61 months. For older buddies however, school location did not have any effect on their pre-test reading age. (see Table 4 and the Figure 2 below).

Table 4: Pre-test reading age by school location

Buddy type	School Location	Mean	N	Std. Deviation	Median	Minimum	Maximum	Mean difference	t value	p value
Younger	Rural	61	13	2	60	60	64	5	26.61	0.03
	Urban	66	11	6	67	60	75			
	Total	63	24	5	60	60	75			
Older	Rural	73	14	7	73	60	84	2	0.014	0.367
	Urban	71	13	7	71	60	84			
	Total	72	27	7	72	60	84			

Figure 3: Mean of Pre-test reading age by school location



Implementation

The Whatsapp platform became a space for not only peer mentoring, but also a great avenue for the Project Mentor to keep a near daily tab on the intervention. The space became very important and gives us a good view into the progress of teachers and pupils.

It was interesting that on the agreed start date, the administrator of the WhatsApp page sent the following message on the space:

08/02/2016, 07:55 - Admin: Jolly Phonics begins today...wishing all teachers a happy Jolly start.

This was a reminder to all that it was start day and so everyone should start teaching the Buddies.

The Mentor followed up on this message by sending:

08/02/2016, 08:23 - Mentor: Good morn lovely friends. I wish u all a good start and i know from what i saw from ur children, u will all have a smooth sail. I know most of u are receiving ur materials today so u can't start with the materials but u can still meet to revise the sounds involved for today.

This nurturing role of the mentor was very important and was a common thread throughout the implementation period. This was extra work that teachers were not paid for. Some motivation was needed!

One of them responded:

08/02/2016, 09:06 - Teacher: Ya we will do our best to achieve a better result

What a cheering response! They were excited to be so recognised and encouraged by the Mentor.

Similar recognition and encouragement from the Lead Trainer generated much excitement and assurances from the team of teachers that they will do a good job of the implementation:

08/02/2016, 09:55 – Lead trainer: Hi All! Lovely to have met you. Thanks for your active participation and enthusiasm. Go on with passion and determination and let's get our pupils reading and writing with ease and fun. I just arrived the airport. Fabulous Mentor is there to help you if in doubt about anything. See you again some time

08/02/2016, 10:23 - Mentor: Thanks be to God for ur traveling mercies. We will keep in touch

08/02/2016, 10:25 – Teacher 1: Thanks mum we really appreciate your effort may the good lord continue to bless you for more knowledge on kids so you extend it to us

08/02/2016, 10:25 – Teacher 2: Once again we all say thank you sososooooo much

08/02/2016, 11:02 - Teacher 3: Thanks 2 our dear Chris Jolly, Doc Eshiet, Aunte Roberta, GES official's, Head teachers n teachers

08/02/2016, 11:03 – Teacher 4: We had a nice teaching n learning time 🙏🙏🙏🙏

09/02/2016, 12:49 – Teacher 5: We thank God for the safe arrival to your destination. Thanks for the additional knowledge you have imparted to us. We are grateful

08/02/2016, 22:06 - Mentor: Hello, hope u all had a good start today

At the end of the first day, the mentor was eager to get updates but there was not much, neither was any word coming in at the end of Day 2.

08/02/2016, 22:06 - Mentor: Any experiences to share

09/02/2016, 08:34 - Mentor: Good morn, i know u are on 2group of sounds. Wishing u all the best. Wishing to read how the first day went

09/02/2016, 08:39 - Admin: Thanks

As an attempt to break the silence, one of the teachers (interestingly, the one who sneaked in) 'threatened' to retrieve the Jolly Phonics Extra Kits if the teachers would not give updates. The pretend threat worked!

09/02/2016, 20:53 - Teacher: It been 2days now n u r all silent 2 Mentor's question

09/02/2016, 20:56 - +233 24 331 2400: If by 2moro non of you give a feedback my self n Gracelyn will come for the materials 2 our school 😊😊😊

09/02/2016, 20:56 - Mentor: Good one dear

09/02/2016, 23:09 - Teacher 2: Hahahaa pls don't come you will hear form us please

09/02/2016, 23:10 – Teacher 2: Mentor, we want to surprise you so don't worry about our quietness

10/02/2016, 01:26 – Teacher 3: We are busy ensuring that we achieve the utmost for our pupils and for the pilot project. As for the kits, "I beg stay away ooo".

10/02/2016, 09:10 - Mentor: Can't wait

10/02/2016, 09:10 - Mentor: Good morning, Day 3

Finally, updates began to trickle in:

10/02/2016, 10:25 - Teacher: We r wrkin hard on it.buh for my school some pupils are absentin themselves.

10/02/2016, 10:33 - Admin: oh.....sorry 😊

10/02/2016, 10:33 Admin: Yesss....we are having good and interesting time with the children.

10/02/2016, 10:34 - Admin: I bet u....for my school, Osubonpanyin/Ateitu M.A Pri, so far so so good 🙌

10/02/2016, 10:41 - Admin: We are sharing lots of experiences with the pupils and improving upon them.

10/02/2016, 14:02 – Teacher in the same school as Admin: As Admin pointed out: as for Osubonpsnyin/Ateitu (Osbon City) so far so good. Our teachers have also gone through a two-day powerful INSET on "Jolly Buddies".

"INSET" mentioned was a cascade. The teachers cascaded the Jolly Buddies training to other teachers in their schools. This happened not only in this school but in others also and is evidence to how much the teachers believed in the intervention right from the start. All went well in Week 1 and there were reports of great teaching and learning times.

Figure 4 Pupils exploring the Jolly Phonics Extra Kit

Figure 5



but by Week 2, the reports were a mix of success and struggles: Problem time? SOS to Mentor!

15/02/2016, 12:43 - Mentor: Waiting for feedback since we have started a new week

15/02/2016, 12:44 - Mentor: Any progress, challenges through last week?

15/02/2016, 13:47 - Teacher 1: Aunty R

From Essuekyir I have realise some of my pupils have problems blending without the talking pen.

15/02/2016, 13:47 – Teacher 1: So we are working on it

15/02/2016, 14:04 – Teacher 2: Same pblm @ my school, Gyangyanadze.they ve pblm wid blending

15/02/2016, 14:10 - Mentor: Hello all, if any of u are experiencng same problem, please let me know and will help u overcome

15/02/2016, 14:11 - Mentor: Thank u. Vic and Doreen will be expecting ur feedback after close of school

Mentor diligently follows up on the teachers:

16/02/2016, 08:14 - Mentor: Good morn all

16/02/2016, 08:15 - Mentor: Hope u good. Vic and Doreen, there was no word from u again. Am still waiting. Hope all the others are on course.

16/02/2016, 08:17 - Admin: Yeswe are on meticulously Madam R.

16/02/2016, 08:18 - Admin: Osubonpanyin/Ateitu M.A Prim. Plsss be expecting lots of feedbacks today.

16/02/2016, 08:18 - Admin: How are the children blending

16/02/2016, 08:18 - Admin: Ok.....thanks

16/02/2016, 08:31 – Teacher 1 above: Aunty R pls I will give u the feedback after today's session

16/02/2016, 17:25 – Teacher 3: Blending is really a challenge for the pupils.

16/02/2016, 11:47 – Teacher 4: So far it's been grt

16/02/2016, 11:47 – Teacher 4 Just facing little challenges with blending

16/02/2016, 11:48 – Teacher 4: Due to that am having special lessons 4 those with de blending challenges

16/02/2016, 11:50 - +233 24 543 3215: Though there has been little challenges we hoping things get better

16/02/2016, 11:54 – Mentor: Great news

16/02/2016, 11:55 - Mentor: Are u applying the skill i taught u now for blending

16/02/2016, 15:26 – Teacher 4: Yes pls

16/02/2016, 17:34 - Mentor: I will address it soon

16/02/2016, 17:36 – Teacher 5: Same here in presby

16/02/2016, 17:40 – Teacher 6: same in zion d

As this has proved to be a challenge for every teacher involved in the intervention and confidence had begun to lower, the Mentor made the hard decision to travel the two and a half hours' way and have a physical meeting with all the teachers and help fill their skill gaps:

16/02/2016, 17:41 - Mentor: Guess i will call u all by ur schools and guide u what to do to achieve the results BLENDING was a real great challenge.

The trip seemed to have worked the wonder considering the following posts on the WhatsApp page:

17/02/2016, 18:05 – Teacher 1: Thank you for coming to help

18/02/2016, 15:17 – Teacher 1: Alice zion d thank God all my pupil came today

18/02/2016, 15:19 – Teacher 1: They did very well with the blending

18/02/2016, 15:30 – Teacher 1: Most of my pupils also did well with the dictation

18/02/2016, 15:41 - Mentor: Thank God for great results

18/02/2016, 11:32 - Mentor: Good morn to u all. Hope u all good. Guess today some of u are for sports and others are still working. How did the blending skill go today

18/02/2016, 11:34 - Mentor: Hope my coming was helpful.

18/02/2016, 11:35 - Admin: Nice...they are picking up bit by bits as the new strategy seems to be very helpful

18/02/2016, 11:38 – Teacher 2: It was. The kids did well in the blending.....with the techniques Madam R displayed yesterday.

It was well worth the Mentor’s effort. She continued following up as can be seen on the page:

01/03/2016, 19:20 - Mentor: Check this page,www.readingrockets.org/strategies/blending_games

01/03/2016, 19:39 - Teacher: Wow! Wat a pregnant page

01/03/2016, 19:41 - Mentor: Read more about blending skills

01/03/2016, 21:57 - Admin: Ok

01/03/2016, 21:58 - Admin: Will read wide on that page of the web.

Another interesting part was that a teacher, the Administrator of the WhatsApp group page encouraged the others to use information available online to boost their knowledge. He proceeded to post not only a link but a full online article on the very topic that has caused them much headache- Blending and Segmenting.

01/03/2016, 21:59 – Admin: Plsss colleagues let's surf the internet

01/03/2016, 22:05 - Admin: Why teach blending and segmenting?

Consistent good news of pupils reading by blending followed this period. The results of the Post-test were therefore not surprising.

Overall Post-test results

Table 5: Post-test Reading Age of older and younger buddies

Buddy type	Mean	N	Std. Deviation	Median	Minimum	Maximum
Younger	86	24	18	81	63	124
Older	100	27	25	92	70	159
Total	94	51	23	86	63	159

The mean post-test reading age of Younger Buddies was 86 months and for Older Buddies, 100 months. Overall mean was 94 months compared to overall mean of Pre-test which was 68 months. There was a 26-month overall increase in average reading age. The difference was significant as shown in Table 6 below.

Table 6: Comparison of pre- and post-test reading age of all pupils

Pre / Post tests	Mean	N	Std. Deviation	Median	Minimum	Maximum	Mean difference	t value	p value
Post-test Reading Age in months	94	51	23	86	63	159	26	9.03	0.001
Pre-test Reading Age in months	68	51	7	67	60	84			

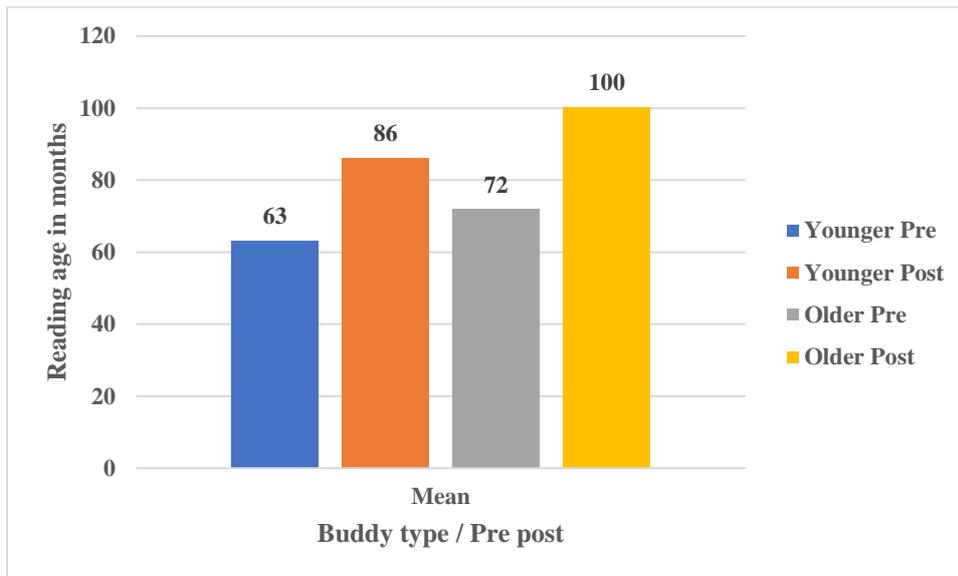
Breakdown of post-test results

Table 7: Comparison of pre- and post- test reading age within group

Buddy type	Reading Age in months	Mean	N	Std. Deviation	Median	Minimum	Maximum	Mean difference	t value	p value
Younger	Pre	63	24	5	60	60	75	23	7.8	0.001
	Post	86	24	18	81	63	124			
Older	Pre	72	27	7	72	60	84	28	6.01	0.001
	Post	100	27	25	92	70	159			

There was a significant increase in average reading age for both older and younger buddies from pre-intervention reading age to post reading age as shown on the table above and the figure below. For younger buddies the improvement was 23 months while for older buddies it was 28 months.

Figure 3: Mean reading age in months



Age

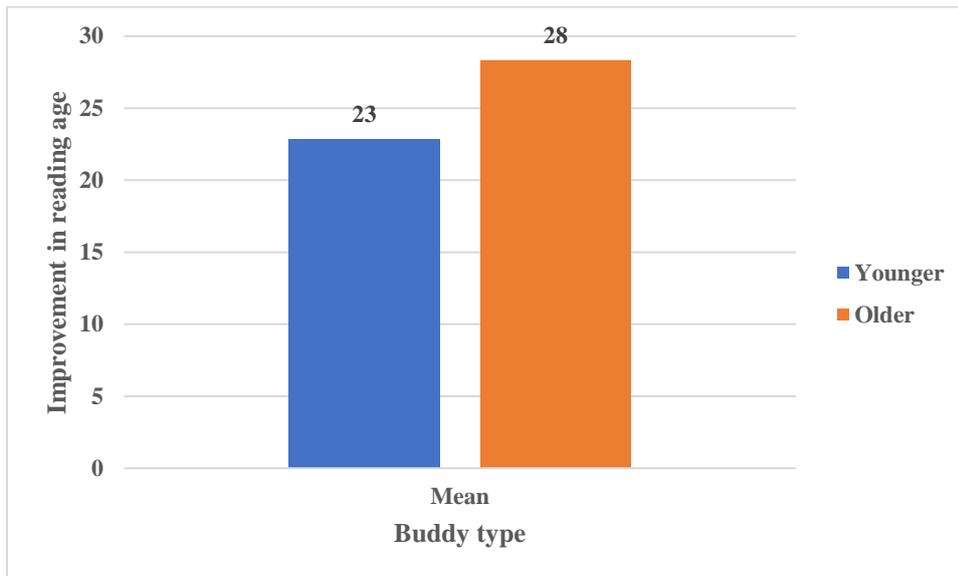
In agreement with existing literature, the intervention appears to have been relevant to and successful with younger as with older pupils.

Table 8: Comparison of gain in reading age of older and younger buddies

Buddy type	Mean	N	Std. Deviation	Median	Minimum	Maximum	Mean difference	t value	p value
Younger	23	24	14	18	3	53	5	0.96	0.328
Older	28	27	25	20	5	95			
Total	26	51	20	18	3	95			

On average, the older buddies gained 28 months in reading age while for the younger buddies the gain in reading age was 23 months on average. Comparing the average gain in reading age achieved by older buddies to that achieved by younger buddies, there is no significant difference in the gains [$t=0.96$, $p=0.328$ (>0.05)].

Figure 4: Comparative gain in reading age of older and younger buddies



Gender

Table 9: Comparison of post - test Reading Age of Buddies by Gender

Buddy type	Gender	Mean	N	Std. Deviation	Median	Minimum	Maximum	Mean difference	t value	p value
Younger	Female	87	13	20	81	63	124	2	0.17	0.870
	Male	85	11	16	78	69	120			
	Total	86	24	18	81	63	124			
Older	Female	103	17	25	105	70	155	8	0.83	0.417
	Male	95	10	26	89	75	159			
	Total	100	27	25	92	70	159			

Gender had no effect on post-test reading age for both the younger and older buddies (Table 9 above). That is, looking at the younger buddies, even though females had a higher average of 87 months compared to males with 85 months, there is no statistically significant difference between them. This is also true for older buddies.

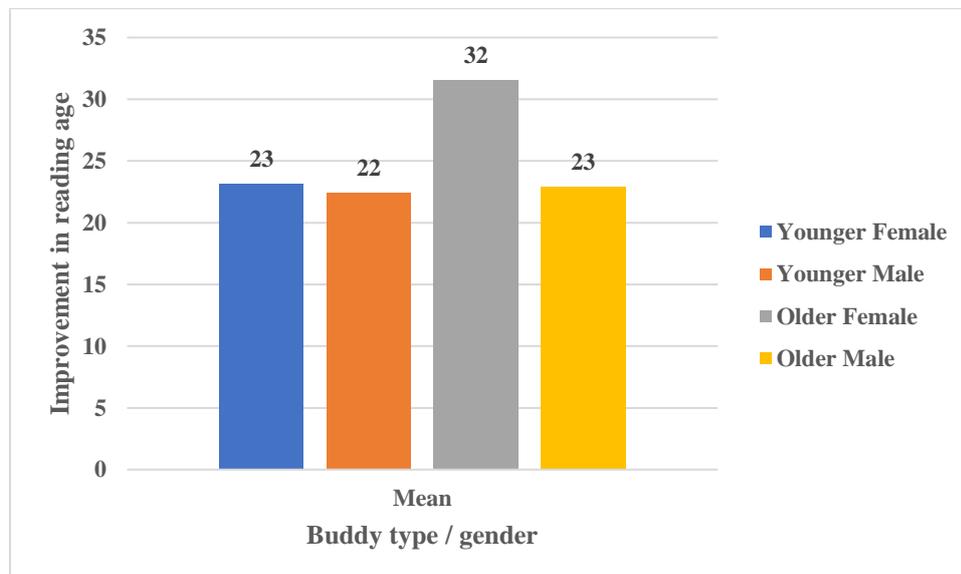
Table 10: Gain in Reading age by Gender

Buddy type	Gender	Mean	N	Std. Deviation	Median	Minimum	Maximum	Mean difference	t value	p value
Younger	Female	23	13	16	18	3	53	1	0.12	0.908
	Male	22	11	13	15	9	46			
	Total	23	24	14	18	3	53			
Older	Female	32	17	24	24	6	95	9	0.88	0.388
	Male	23	10	26	13	5	88			
	Total	28	27	25	20	5	95			

Older female buddies gained 32 months in reading age on average compared to the male who gained 23 months. A difference of 9 months, however, this difference is not significant [$t=0.88$, $p=0.388$ (>0.05)]. For younger buddies, female gained 23 months in reading age on average compared to male who gained 22 months. A difference of just one month, however, this difference is also not significant [$t=0.12$, $p=0.908$ (>0.05)] (see Table 10). This is consistent with literature: there is no significant gender difference in gain in reading age of male and female when pupils have been taught using synthetic phonics.

Figure 5 further illustrates the gains in reading age of the pupils.

Figure 5: Reading age gains by Gender



School location

Table 11: Comparison of post- test Reading Age of Buddies by school location

Buddy type	School Location	Mean	N	Std. Deviation	Median	Minimum	Maximum	Mean difference	t value	p value
Younger	Rural	75	13	7	74	63	90	24	4.44	0.001
	Urban	99	11	18	99	66	124			
	Total	86	24	18	81	63	124			
Older	Rural	87	14	11	87	71	108	27	3.34	0.005
	Urban	114	13	28	118	70	159			
	Total	100	27	25	92	70	159			

Unlike gender, school location had an effect on both younger and older buddies; for younger buddies, the average post-test reading age for those in the urban area was 99 months while for those in the rural area it was only 75 months. The corresponding figures for the older buddies are: urban 114 months and rural 87 months (Table 11 above and Figure 6 below).

Figure 6: Post-test reading age by school location

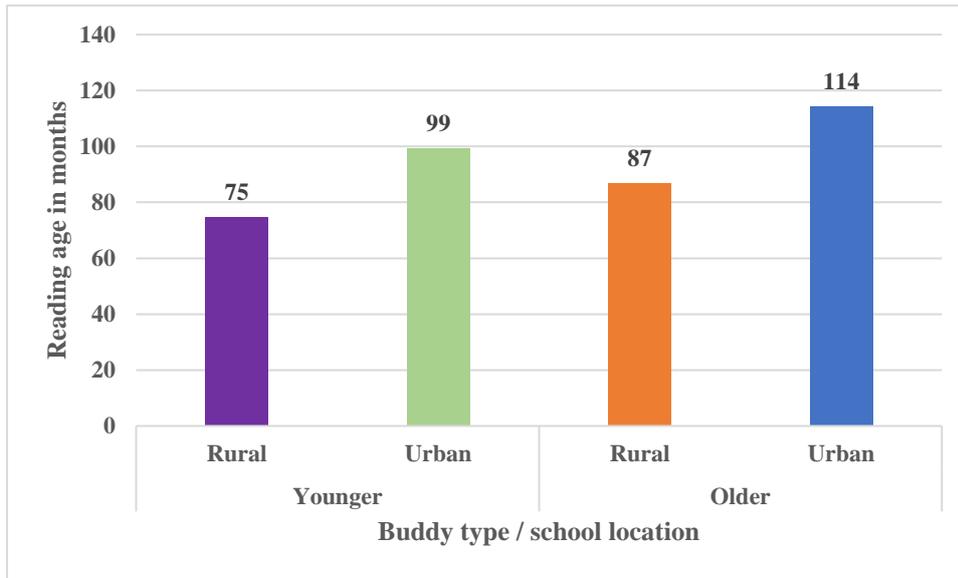


Figure 7: Comparison of reading scores

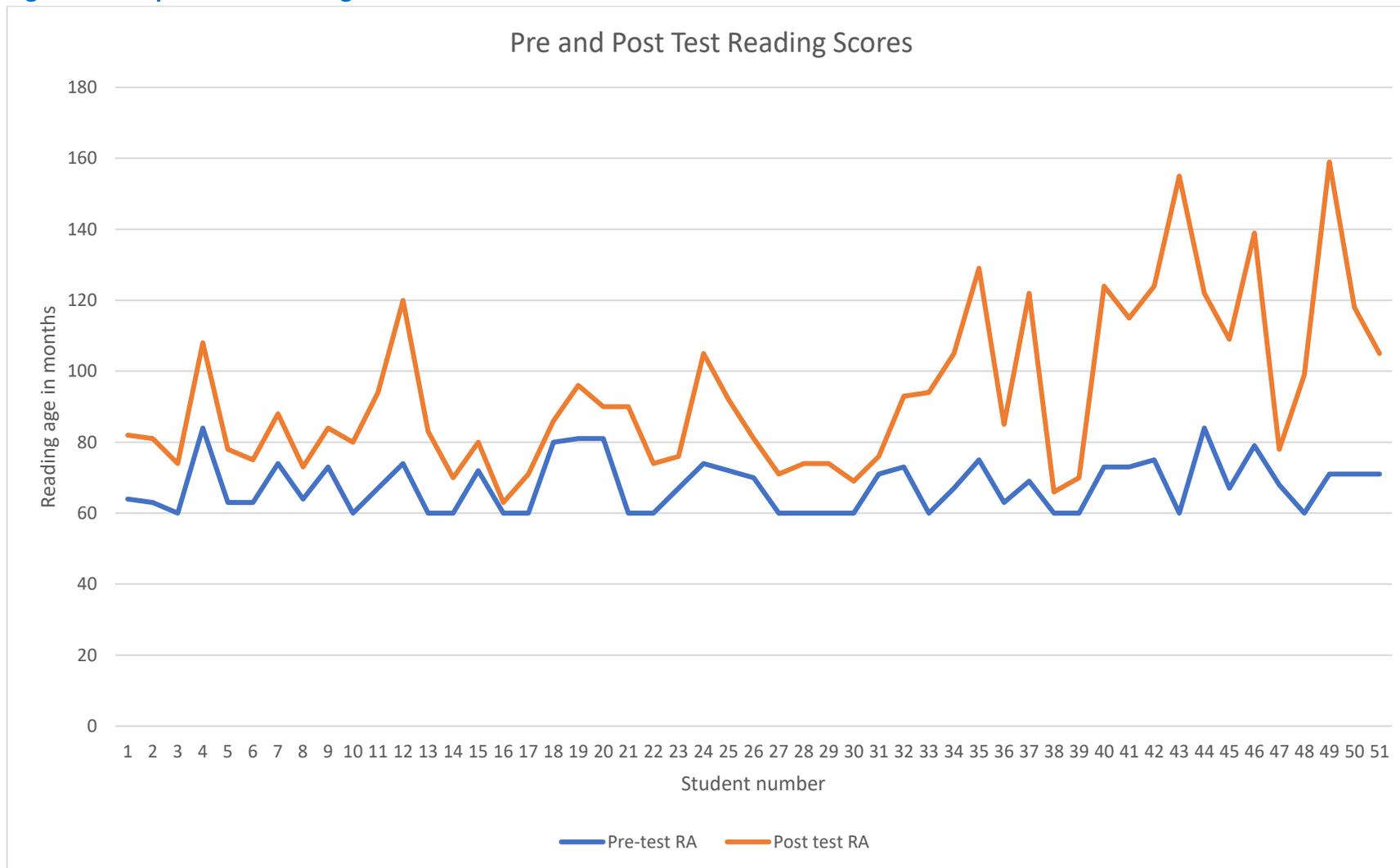
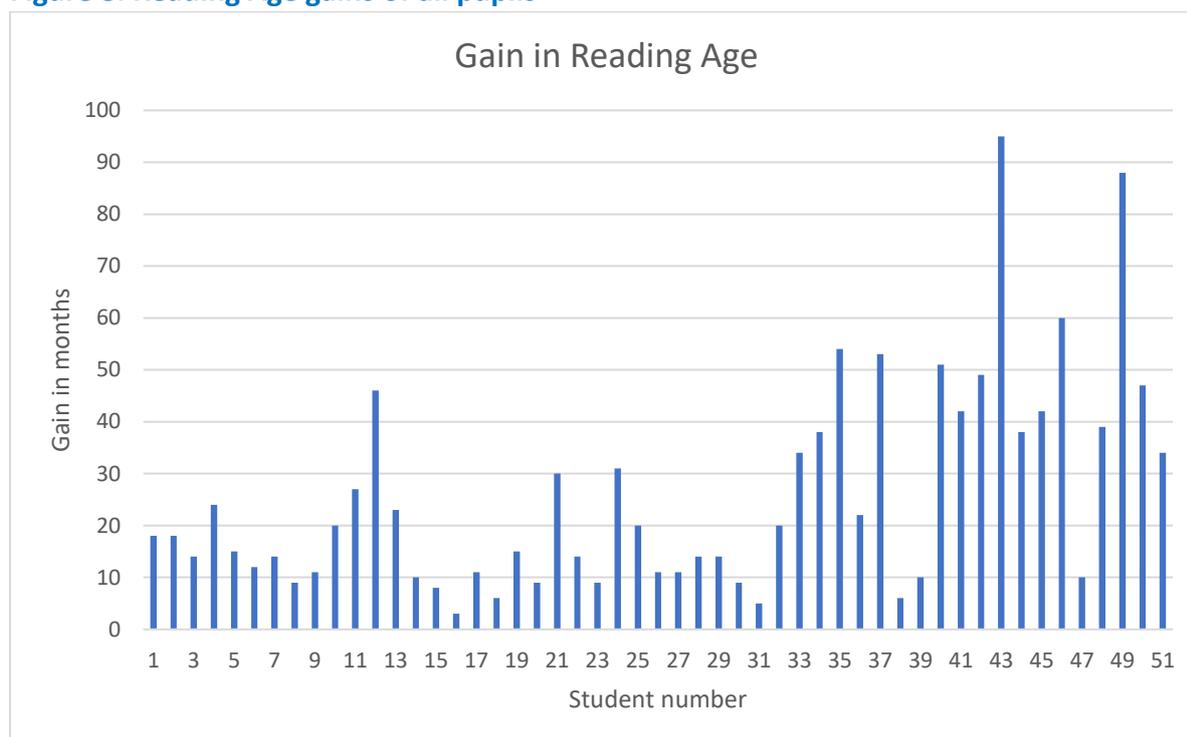


Figure 8: Reading Age gains of all pupils



Perspectives of teachers involved in the trial

After the post-test, a feedback questionnaire was distributed among the teachers involved in the project. Four teachers completed this questionnaire. Their answers are included in full as an appendix to this report.

The questions were designed to draw out both positive and negative aspects of the intervention, and to gauge teachers' reactions. The researchers also hoped to get some insight as to what went on in the classroom, and to understand whether the teachers were interested in continuing with synthetic phonics in future years.

The responses were overwhelmingly positive. The first five questions are quite general, the final three questions are aimed specifically at teachers and the impact phonics had on them and their pupils in the classroom. Only two of the four teachers answered these final three questions.

Why did you want to take part in the Jolly Buddy pilot programme?

Responses varied, as two teachers thought it might help them in the classroom, another thought that peer teaching was beneficial to students. The other teacher had had some Jolly Phonics training and was keen to see what a Jolly Buddy project could do.

What impact do you feel this pilot project had on:

Pupils who took part?

The teachers who responded were entirely positive about the effect on their pupils, with one saying it had improved their confidence and accuracy. Other comments were that it was interesting for the children and that they could learn easily.

Teachers who took part?

It was felt that the project had a positive impact on teachers as well as pupils. The two teachers who had hoped to improve their teaching skills in Question 1 both mentioned that they felt this had been achieved. Another teacher felt that the burden on teachers had been eased, as they did not have to do all the talking and teaching.

Schools as a whole?

Again, the impact on schools was entirely positive. One teacher said that their school had organised Jolly Buddies training for all teachers. Another teacher mentioned that the interactive devices had been positive for the school.

What was the most interesting or impressive moment that you witnessed during the pilot?

This question revealed some very personal responses, with one teacher naming a pupil who had been unable to read begin to teach his peers. Another teacher said that their pupils were beginning to read words that even the teachers found difficult!

What do you feel could be done to improve the pilot?

One respondent felt that the trial period should be extended, another that more schools should be included. One teacher suggested that random sampling might be useful, while the fourth teacher highlighted the problem of finding children of suitable ages, as children are often older than the official age for the class.

Is there anything else you would like to tell us about?

Two teachers responded to this question to say that the programme had been positive for them.

Did you notice any changes in your pupils who took part in the pilot? If yes, please describe them.

One teacher mentioned a child who couldn't read in their class had come second in the class examination after the project. The other teacher said that children who couldn't read were now beginning to read.

Did the pilot make any difference to the way that you teach reading skills in your class? If yes, what differences?

One teacher said that the programme had helped them to correct their pupils' pronunciation.

Will you continue to use phonics with your pupils in the future?

One of the teachers who responded said yes, the other said that she would continue using it even once she retired, as a pension project!

Summary of findings

In this three-month study, every single student involved made a gain in reading age of at least five months.

The lowest gain in reading age in the three-month period was three months. The highest gain was a remarkable 95 months, or seven years and eleven months.

Sixteen pupils made gains of between five and eleven months. The remaining 35 pupils made gains of a year or more in their reading age.

Fourteen pupils made gains of three or more years, seven of whom gained more than four years.

School location had an effect on the result of the intervention; pupils in urban schools made more gain than those in rural schools. Literature is unanimous that pupils in urban locations tend to show greater achievement than those in rural location. However, it is still a puzzle why such would apply to an intervention where teachers and pupils had similar training, resources and monitoring. In fact, they all showed similar keenness for the intervention.

Struggling female and male pupils made comparable gains from the intervention. Gender had no effect on gain in reading age when the Jolly Buddy intervention has been used to remedy poor reading skills.

The Jolly Buddy intervention was as effective and relevant to younger as to older. This shows that struggling pupils of all age groups would benefit from the Jolly Buddy intervention.

Teachers felt privileged to have been a part of the intervention and were united in their positive feelings towards the project. In their exit feedback, they used words such as “interesting”, “vibrant” and “confidence and accuracy”. Their professional delight at being involved in this peer teaching pilot was evident from their positive responses.

Conclusion

The results here are striking, as every single child made a gain in reading age. As the intervention was three months long, and the minimum gain was five months in reading age, this intervention appears to have had success for all participants. Every teacher who completed an exit interview was extremely positive about the intervention.

From this data, it can be seen that synthetic phonics, used in a paired buddy system, can be an extremely effective way to boost the literacy skills of struggling readers, even those who have already progressed through five years of primary school without being able to read. This study broadly supports the findings of previous studies, carried out in Nigeria, which suggest that this method can be an appropriate way to increase reading levels of struggling pupils. It is also clear that the Jolly Buddies intervention skills is exciting and highly acceptable to teachers.

Recommendations for further study/interventions

It will be extremely beneficial to follow these children through their school careers, to see if they maintain the gains from this study and can improve on them in later years. It would also be interesting to know if the teachers involved continued to use synthetic phonics as a means of teaching literacy, as more than one teacher stated that intention in their exit interviews.

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Appendix 1

Interview Responses

1) Why did you want to take part in the Jolly Buddy pilot programme?

Teacher 1: “Because I was part of the Jolly Phonics program and I saw the impact of it after the implementation, so I got interested and I wanted to see what the Jolly Buddy will add up to.”

Teacher 2: “I wanted to join to improve on my teaching methods especially with English Language.”

Teacher 3: “I believe in peer teaching because the child is able to communicate best with his or [her] peer. There are less barriers between them than with adults.”

Teacher 4: “I wanted to take part in the pilot program to be exposed to the different methods of teaching Jolly Phonics to make teaching and learning easy.”

2) What impact do you feel this pilot project had on:

Pupils who took part?

Teacher 1: “It was an interesting way of learning since it was not a teacher doing the teaching but their peers and the pen.”

Teacher 2: “It helped them easily identify sounds, blend them and use them in simple sentences.”

Teacher 3: “One could feel the vibrant energy of the children conversing with one another about the program. Thus sharing their experiences, new skills gained with their peers. The I.T. devices being used by the pupils gave them confidence and accuracy in the literacy class.”

Teacher 4: “The pupils who took part are now coming out boldly to read on their own and are eager to learn more.”

Teachers who took part?

Teacher 1: “The burden on the teacher was reduced, and much talking was not done by him or her.”

Teacher 2: “It excited teachers since another tried and tested method of teaching has come to help pupils to read.”

Teacher 3: “New literacy skills were acquired to improve technicality in the language acquisition.”

Teacher 4: “Teachers who took part have been equipped with the necessary skills in making the teaching of Jolly Phonics easy and interesting.”

Schools as a whole?

Teacher 1: “The problem of pupils’ inability to read was gradually being improved.”

Teacher 2: “It improved the performance of the average pupil in the school and the school as a whole.”

Teacher 3: “Schools that took part counted themselves blessed because there was a new way of teaching the English language. Things were made easy by the use of the I. T. devices. Accuracy of sounds were learnt. The use of the I. T. devices also brought a new euphoria in the school.”

Teacher 4: “The schools involved are also trying to organise in-service training for the entire teaching staff and the pupils at large.”

3) What was the most interesting or impressive moment that you witnessed during the pilot?

Teacher 1: “The interesting part was how the younger ones were trying to pick the sounds in order to teach the grown ups, their buddy. It was really a competition.”

Teacher 3: “The most impressive moment was when I saw one of my pupils teaching his peers. I was very excited and thankful for the programme like this.”

Teacher 4: “The most impressive moment was when the buddies decided to take orders from each other and not the teachers and to our amazement, they were reading words that even teachers were finding it difficult to teach.”

4) What do you feel could be done to improve the pilot?

Teacher 1: “During the selection process you requested for pupils within a certain age and I think that was a problem because most pupils are found in classes [where] they are not supposed to be. They are mostly older than their class.”

Teacher 2: “More teachers and schools should be included to spread its effectiveness.”

Teacher 3: “I feel in the case of such program there could be random sampling. Many pupils could also take part so as to improve upon our literacy lessons. Books brought should be beneficial to all the children.”

Teacher 4: “I think the period for the programme should be extended for us to experience [it] more.”

5) Is there anything else you would like to tell us about?

Teacher 1: “Yes there was a great difference, because we realise everybody can read, provided the right materials and condition.”

Teacher 2: “Anything else: it’s a worthwhile program that must be invested in by many.”

6) Did you notice any changes in your pupils who took part in the pilot? If yes, please describe them.

Teacher 2: “One of my pupils improved so much that she took the second position [in the] end of term examination.”

Teacher 3: “Yes there were a lot positive changes in my pupils. Pupils who couldn't pronounce words or read, after the programme were pronouncing difficult words and reading with ease.”

7) Did the pilot make any difference to the way that you teach reading skills in your class? If yes, what differences?

Teacher 2: “It helped me in helping my pupils use the correct individual sounds to construct words and pronounce them.”

Teacher 3: “In my opinion I think Jolly Phonics should be accepted nationwide if not internationally Jolly Phonics all the way.”

8) Will you continue to use phonics with your pupils in the future?

Teacher 2: “Yes, I will continue to use phonics with my pupils.”

Teacher 3: “Madam, look if God grant me the grace and the grace and I go on pension I think I will take Jolly Phonics as a big project work to occupy my old age leisure hours. It's the best so far.”