# Being a Bug Club School; Exploring Sustained Impact, Usage and Implementation

REPORT

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**UCL INSTITUTE OF EDUCATION**

IN COLLABORATION WITH:

**THE PEARSON UK, RESEARCH AND EFFICACY TEAM**

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**EXECUTIVE REPORT**

**MAIN REPORT**

## List of Tables and Figures

**EXECUTIVE REPORT**

*Introduction*

This report presents findings from the third phase of a longitudinal multi-strategy study. The study was undertaken to explore the impact and implementation of Bug Club and was conducted by UCL Institute of Education (IOE) and the Pearson Research and Efficacy team. To investigate the efficacy of Bug Club, schools were provided with Bug Club Key Stage 1 products: the Bug Club Print books (fiction and non-fiction), Phonics Bug (PB), Phonics Online, Spelling and Grammar materials (SPaG) and the Online Reading World (ORW). They also had access to Bug Club assessment and tracking facilities, and to teacher resources (photocopiable worksheets (PCMs) and teaching notes).

This report focuses specifically on motivation of children, parents and teachers to continue usage of Bug Club materials, their reading activity and the exploration of what implementation patterns look like in classrooms with high reading gains. The study took place during the summer term of 2016.

*Why is Bug Club referred to as an implementation in this report?*

Pearson refer to Bug Club as a reading programme. It has a collection of resources that are said to complement each other and contribute to an effective classroom literacy environment. Whilst the benefits of using several elements of Bug Club are implicit, schools are not required to adopt all of the resources, are not advised as to any particular sequence of roll-out activities and are not advised to use solely Bug Club resources. Therefore what each school actually does as they use Bug Club materials varies considerably. References to 'the Bug Club reading programme' do not constitute the same contents or delivery. Therefore what happened in each school taking part in the study is referred to as an implementation; each school used the materials and approaches to some degree but they did not follow (nor were they asked to follow) a script or specified set of activities. Each school had a unique implementation of Bug Club. Simply put, an implementation refers to the set of actions that a school chose to do as they used Bug Club, and the specific resources they chose to use.

For the purposes of this study, a threshold for a school's engagement was stipulated; a day's training (or equivalent) in the range of available resources, use of the Bug Club guided reading books and the Online Reading World. Schools were not advised or required to implement these in any particular way although a minimum threshold by which to evaluate the implementation was devised and shared with the schools (Appendix 1). Schools were also offered activities that whilst encouraged were not stipulated; the Phonics Bug books, the Phonics online interactive teaching resource, the

Teacher Support materials for each resource and the Spelling and Grammar materials. These resources were offered to schools as optional elements of their implementation and teachers were free to decide what they used. The phonics approach the school already followed influenced this decision in many of the schools that began using Bug Club in January 2015.

The frequency and the manner of use of materials that are designed to resource an implementation of Bug Club are referred to as usage.  The many resources can have different usage in different classrooms, but all of the classrooms can be regarded as having a Bug Club implementation.

*Background*

Collaboration with the Pearson Research and Efficacy team spanned 18 months and involved three distinct phases of research activity.

Therefore, there were four data collection time points across the 18 months of the study.

Phase 1 - During January- July 2015, 1510 children and 36 schools participated in a randomised control trial (RCT). Phase 1 of the research study spanned January 2015 – July 2016, some 5.5 months of the study. To explore and evaluate the processes of implementation and participant engagement, teachers in all schools responded to a questionnaire at several points in time (baseline, A1, A2 and A3) to assess changes in attitude and reported confidence. A sample of teachers from both experiment and control schools were also surveyed to explore literacy teaching practices. Additionally at Phase 1, children, parents, teachers and head teachers in ten case schools identified from within the experiment schools were interviewed and some teachers were observed using Bug Club resources.

Phase 2 - The control group joined the experimental group to implement Bug Club.  RCT measures of child attainment and attitude were collected in January 2016 at data collection point A2.

Phase 3 – Measures of child attainment and attitude were collected again.   Additionally, six schools were identified to provide case examples of the Bug Club implementation for some 18 months after initial introduction.  Children, parents and teachers were interviewed to explore whether motivation and perceptions of worth had been maintained, increased or decreased.  Teachers of classes with higher than the mean reading gain score were approached to discuss in detail the implementation patterns adopted in order to develop some models of effective implementation.

A sample of teachers from across the 30 schools remaining after the six case schools were identified were approached for a short telephone interview following analysis of the main data collection in order to triangulate and check the emerging interpretations.

| Data collection point | Time period | Data collected | Participants |
|---|---|---|---|
| Baseline - January 2015 | | • Measures of child attitude and attainment<br>• Teacher attitude questionnaire | 1884 children (1147 intervention, 737 control)<br><br>115 teachers (74 intervention, 41 control)<br><br>across 36 schools |
| | Phase 1<br>January 2015 – July 2015<br>Data collected in July 2015 | • Teacher attitude questionnaire<br>• Implementation survey in all classes<br>• Interviews with children, parents and teachers from 10 case schools | 164 children<br><br>113 teachers<br><br>41 parents<br><br>across 10 intervention schools |
| A1<br>July 2015 | | • Measures of child attitude and attainment<br>• Teacher attitude questionnaire<br>• Implementation survey in all classes | 1695 children (980 intervention, 715 control)<br><br>115 teachers (74 intervention, 41 control)<br><br>across 36 schools |
| | Phase 2[1]<br>July 2015 – January 2016 | | |
| A2 - January 2016 | | • Measures of child attitude and attainment<br>• Teacher attitude questionnaire<br>• Implementation survey in all classes | 2450 children (1735 intervention, 715 'historic'[2] control)<br><br>117 teachers (all implementing Bug Club)<br><br>across 36 schools |
| | Phase 3<br>January 2016 – July 2016<br>Data collected in July 2016 | • Interviews with children, parents and teachers from six case schools<br>• Interviews with teachers of classes with high reading gains.<br>• Telephone interviews with teachers in both 'new' and 'experienced Bug Club schools | 83 children (54 Y2 and 29 Y1)<br><br>115 teachers<br><br>28 parents<br><br>across 10 intervention schools<br><br>21 teachers across the remaining 'experienced' and 'new' Bug Club schools |
| A3 - July 2016 | | • Measures of child attitude and attainment<br>• Teacher attitude questionnaire<br>• Implementation survey in all classes | 1695 children (980 intervention, 715 control)<br><br>115 teachers (74 intervention, 41 control)<br><br>across 36 schools |

*Table 1: Data collection*

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[1] At Phase 2, the control schools began to implement Bug Club, therefore becoming intervention schools.
[2] The control used is made up of the control measurements gained at A1.

*Previous Findings*

At Phases 1 and 2, Bug Club children made significantly more progress in reading, as measured by the InCAS standardized reading measure compared to children in the control group.  At A1, children in the Bug Club schools made 1.65 more points progress on the standardized reading measure than children in other schools, a small but highly significant effect at A1 and 1.74 more points progress at A2 (from baseline), also statistically significant.  All respondents during Phase 1 (class teachers, Literacy coordinators, head teachers and parents) reported that children demonstrated increased engagement with reading, and were reading more and for longer. Most Bug Club materials were perceived to be motivating for children and were considered to be effective teaching tools for even the most reluctant readers.

The research activity at Phase 3 during the summer term of 2016, and forming this report, focused on (i) motivation of children, parents and teachers to continue usage of Bug Club materials, their reading activity, and (ii) the exploration of what implementation patterns of classrooms with high reading gains looks like.

**Methodology**

This document reports on the exploration of the following research probes;

1. **Do motivation and engagement continue, at child, teacher and school levels?**
2. **What does effective implementation look like in the classes with high reading gains?**
3. **Were there changes in usage?  If so, why did teachers make those changes?**
4. **What are the characteristics of the highest and lowest attaining children?**
5. **What can we infer about the impact of usage on attainment?**

To explore Question 1, six schools were identified from schools that had begun to implement Bug Club in January 2015 (see Table 1 above).  In order to explore whether motivation was sustained, potential schools were identified by analysing Phase 1 data from Literacy Coordinators and head teachers, locating those that had well-defined plans for continued implementation linked to specific child attainment or school improvement targets.  This resulted in six schools offering a useful case context.  Data to explore the motivation of the six case study schools as they continued to implement Bug Club included;

- semi-structured interviews with children, school, teachers and parents who had implemented Bug Club in Phase 1.
- questionnaires to survey perceptions of quality and usefulness from parents and children new to Bug Club implementation, but in schools who had been implementing Bug Club for some 5.5 months.

In order to explore Question 2, reading gain score data during Phases 1 and 2 were divided into quartiles.  Teachers in the highest quartile were approached to be interviewed on the telephone.  They were asked to describe in detail their implementation practice and to quantify usage of the different aspects of their implementation of Bug Club.

Question 3 involved asking teachers in the six case study schools at Phase 3 and the teachers of classes with high reading gains to comment on their usage of Bug Club.  In order to see if these patterns were more generally observable, teachers from all those schools not acting as case studies for Phase 3 were approached for information to provide a more general view of usage.

In order to explore what characteristics could be seen in the two distinct groups of highest attaining and lowest attaining children, Question 4 explored child attainment for characteristics with class, school, implementation pattern and child characteristics. Reading gains for the six case study schools were analysed into quartiles and then the highest and lowest attaining quartiles were examined for links between relative reading gain score and school and child characteristics.

Question 5 sought to understand how often children use the online reading world (ORW). Data capturing how many reading tasks had been completed[3] were gathered so enabling investigation over time with regard to schools and year groups. A system that offers a fine-grained approach to data collection is not currently used by the online platform[4] but it was hoped that this record of completion would offer some insights into whether child and teacher motivation for usage of the ORW was maintained, increased or decreased. This would triangulate data gathered through self-report and perception and therefore increase validity of findings.

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[3] Completion data captured the number of books that have been completed. This means that pages of the entire book were turned and all activities within the book were completed. Partial completions are not captured.

[4] The system through which teachers allocate books and assess child progress and children can access electronic versions of books

**Key findings in brief**

**1. Do motivation and engagement continue, at child, teacher and school levels?**

**Interviews with children, parents and teachers show that attitudes amongst children using Bug Club remain positive in the main. Bug Club would appear to have contributed to a reduction in the proportion of Y2 children reporting to dislike reading.** The proportion of Y1 children who reporting to enjoy reading is greater than the proportion of children in Y2. The proportion of Y1 children reporting to not enjoy reading is broadly the same as in previous findings (**10.34%** in Phase 3 as opposed to **11%** in Phase 1). Although the very small number of Y1 children accessed in Phase 3 necessitates that this slight decrease is interpreted with some caution, the pattern seen with much greater numbers (during Phase 1) does support the interpretation that in general, enjoyment of reading decreases slightly with age and this is not dependent on the resource alone. The proportion of Y2 children reporting to not like reading at Phase 3 is about half that seen in Phase 1 (**5.35%** in Phase 3 as opposed to **11%** in Phase 1). This group of Y2 children had experienced regular experience of the ORW during Phase 1 and this may have increased enjoyment for some children, accounting for the decrease in the proportion reporting to dislike reading. There are 10 of 54 Y2 children who continue to dislike reading after 15-18 months of Bug Club implementation.

**Interviews in the six schools forming the case for exploring continued motivation and usage found that the proportion of children, parents and teachers reporting home use of ORW has declined by almost 30% since Phase data collection in July 2015.** This is in contrast to the reported increase in reading online at home seen during Phase 1. Children and parents in schools who began as control but became Bug Club schools in September 2016 also reported a rise in reading online at home during the first few months of Bug Club implementation. In the 'experienced' Bug Club schools, this initial increase was not sustained. Parents were less motivated to enable access to ORW influenced by lower motivation from the children and by less teacher engagement.
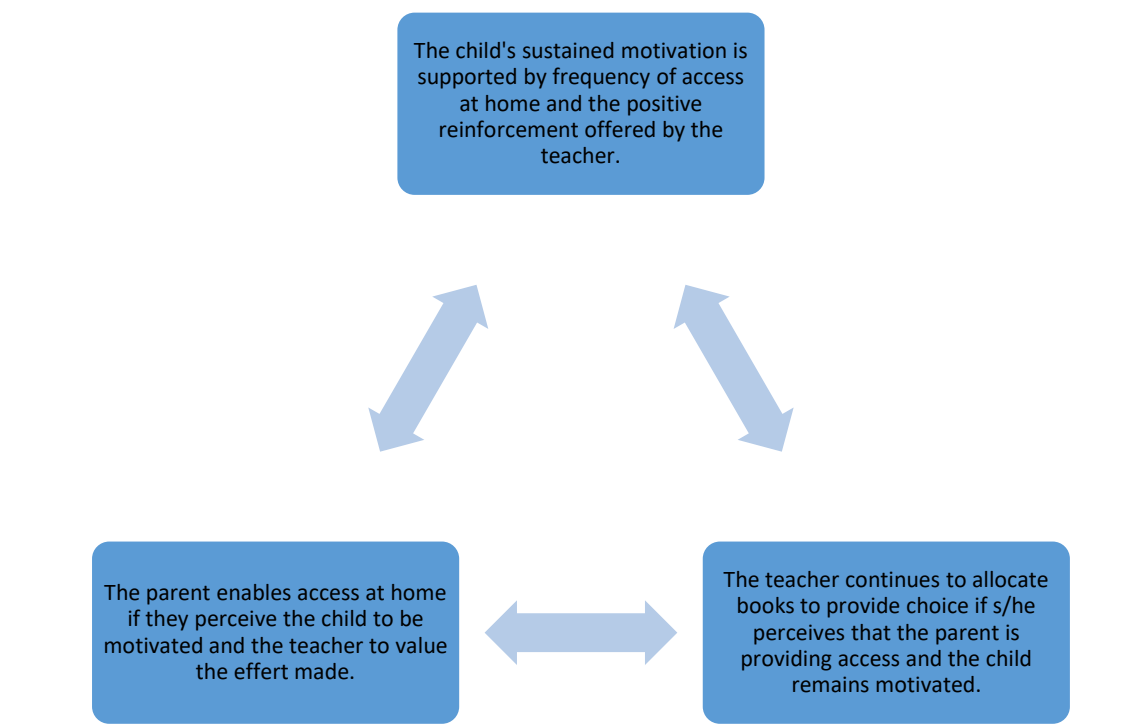
*Figure 1: Child access to ORW is influenced by parent and teacher perception*

It may be that the initial increase seen in the second cohort of schools will undergo decline in much the same way, echoing the pattern seen in children who started Bug Club in January 2015.

**Child self-reports, parent self-reports, teacher self-reports and platform data show how the increase and decline reported in the two cohorts of implementation cross paths** (see Figure 2 below), **with the rise and fall influenced by when the children's Bug Club experience began, rather than motivation being sustained following implementation.** Bug Club appears to have created an initial swell in enthusiasm but this has not been sustained.
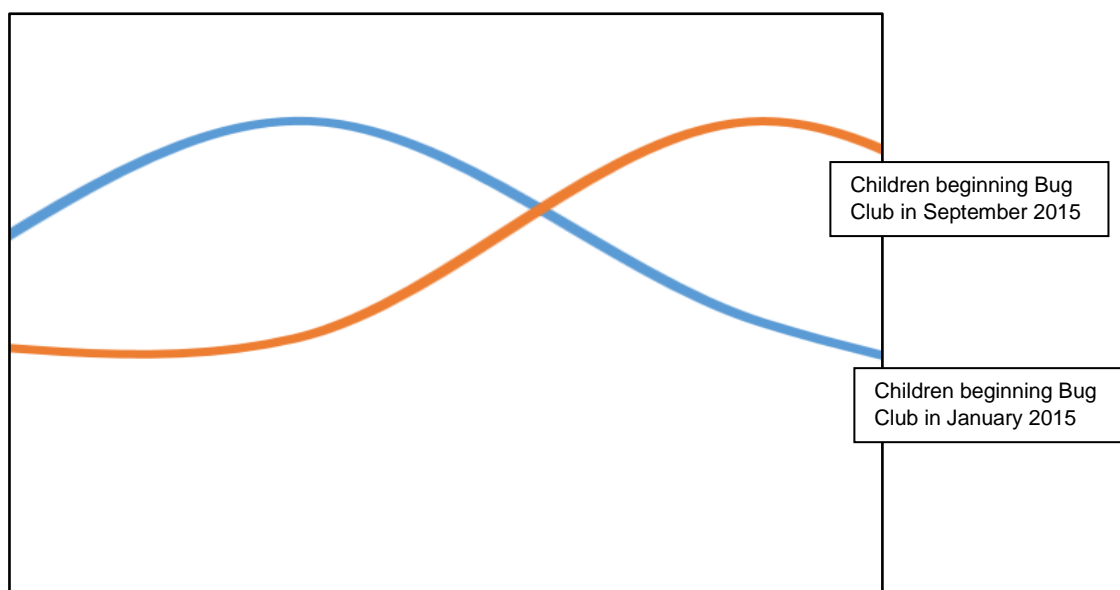
*Figure 2: Increase and decline of reported online reading at home, experiment and control schools*

**Child and parent reports indicate that enthusiasm for and usage of the ORW has declined in the second year of Bug Club implementation.  37 of 54 Y2 children (68.51%)** interviewed in the **six case study schools** indicated that they currently accessed the ORW at home.  This is lower rate of access provided by schools than seen during schools' early engagement with Bug Club (**90% of 82** Y2 children in Phase 1) and represents a decline from usage reported in Phase 1.  Children's comments demonstrated that both personal motivation, home and school factors had influenced this decline. One cause of this demotivation was the lack of contingent responding in the functionality displays, and the unchanging small variety of games.  Another was the interruption by the quizzes as readers become intrinsically motivated by the reading task itself. The case that appeared to be the most influential was the decrease in attention to ORW afforded by teachers and parents**. 56.5%** of parents asked indicated that they now used ORW less than when they first had access.  **A further 17.86%** said they no longer used it at all. This is a surprising finding since schools were identified for the case exploring motivation by the presence of clear plans for developing and increasing implementation, particularly for home-school links using the ORW. This was taken as an indicator of the presence of motivation for and commitment to the product at that stage. Motivation for ORW was not sustained overall, though in some schools, teachers continued to allocate books despite perceiving that parents and pupils were not accessing them.  This was because the teachers wished to follow school policy.

**Child comments relating to perceptions of the platform being more suitable for younger children, its lack of responsiveness and limitations in the number of games available suggest that as children mature, many became less motivated by ORW.** Comments of this type had not been gathered in this same group of children whilst in Y1 during Phase 1 of the study  Such comments were however occasionally seen amongst Y2 children during that phase , even in the initial stages of Bug Club implementation when the resource was new to the school.  This suggests that maturity and boredom with the repetitive nature of the rewards and games influence decreased motivation in children.

**In interviews, just 4 of 54 Y2 (7.4%) children responded that they felt the avatars made them more inclined to read on the ORW demonstrating that some Y2 children begin to feel that avatars do not enhance the reading experiences on ORW.** This ambivalence for avatars may increase as children get older and move into Y3.  This likelihood is supported by teacher perceptions of the impact of Bug Club on motivation beginning to wane in Y2.  Class teachers in the six case schools responded to questions about what aspects of ORW had an impact on motivation for reading and whether children liked ORW the same, less or more.  The design and rewards were perceived to be less motivational for Y2 children, whereas quizzes retained high popularity.  Findings suggest that to successfully build persistence of motivation for the ORW would involve developing an age-related design and functionality capacity that develops in line with the maturity of the year-group at which it is aimed.

**Less than a quarter of parents using ORW at home after 15 months of access perceive that it has contributed to raising reading enjoyment. In interviews, seven of the 19 parents** felt that they had seen an increase in enjoyment of reading during the previous 15-16 months.  However, **just four of seven parents** that perceived an increase in reading enjoyment perceived that Bug Club had an influence on the continuation of enjoyment or an increased level of engagement. The remainder felt that the changes in attitude and habit would have occurred anyway and the change was not connected to ORW; reasons for improvement in attitude given by the parents included the teacher, maturity, home practices around reading. Children strongly resistant to reading remained unaffected by the presence of ORW or Bug Club in the school with enjoyment of the games not transferred to reading more generally.

**The 10% decrease in the numbers of parents accessing ORW at home was primarily triggered by a perception of a decrease in child motivation.  Five of the 28 parents interviewed (17.86**%) no longer used ORW at all at home.  This is a 10.5%

reduction in the proportion of parents reporting to access ORW since Phase 1.  The reason parents gave for not continuing to access ORW at home was that their child had stopped enjoying it.

**Of the 23 of 28 parents still accessing ORW (82.14%) thirteen (56.5%) responses indicated that they now used ORW less than when it was first introduced.**  When interviewed, parents perceived that levels and frequency of support and guidance offered by the school influenced this decrease in usage and did not meet their needs.  Teachers however perceived that they had tried to engage parents but that interest and motivation had not been sustained.

**Print copy guided reading books are the most consistently popular aspects. Enjoyment and motivation for these has not diminished.** The recommendations provided showed that Y2 children in the six case study schools remained very positive about Bug Club as a whole after around 18 months of usage.  Bug Club guided reading books received **100%** of positive recommendations from the 54 Y2 children and **100%** positive evaluations in both Y1 and Y2 children.  Y1 and Y2 children also report overwhelmingly that they still enjoy Bug Club print copy books for guided reading.  These self-reports are supported by teacher and parent perceptions.  Evaluations by Y1 children related to the same topics as those reported in Phase 1; humour, quality of illustration, relevant and interesting, enjoyable stories, recognisable characters from TV and film.  For the vast majority of Y1 and Y2, Bug Club readers continued to support persistence with reading since the books were found by the children to be enjoyable, entertaining and age-appropriate. The potential to support enjoyment of reading was also reported by parents and teachers.

**Teacher and child reports and teachers diaries show that use of Bug Club phonics materials (Phonics Bug and Online Phonics materials) has also declined overall**, though in some of the six case schools explored, daily use of Phonics Bug did continue. This finding is supported by the telephone interviews carried out with 21 teachers from schools beginning their Bug Club implementation at January 2015 and September 2015 (see Table 1) where Phonics Bug usage remained roughly the same overall, but in some schools it was abandoned altogether and in others usage increased in consistency a little.  Just 16 of 54 Y2 children (29.62%) interviewed responded that they used Phonics Bug books in their classroom.  Responses to evaluate the materials were not as developed as when children were shown the Bug Club guided reading books and whilst children had no negative comments, responses were typically just 'I like it'. Three of the six case schools explored at Phase 3 were not using Bug Club phonics materials

consistently. This low reported usage by children would seem to be broadly accurate, since even in the three of the six case schools in this study continuing to implement the phonics materials, not every teacher chose to use it.  Teachers choosing not to use Phonics Bug perceived it to be less useful than other decodable texts and to be enjoyed less by children.  (Less engagement with Phonics Bug materials than other Bug Club materials was found during Phase 1 and this study repeats those findings).  Decreases in motivation are shaped by the presence of a preferred phonics scheme, perceptions of limited functionality, perceived problems with pace of learning and functionality of the technology (in the case of Phonics Bug) and pedagogic design (in the case of both PB and Phonics Online).

**Teachers who did use Phonics Bug and Phonics Online most frequently used it in combination with or in support of another phonics programme.**  Whilst teachers were beginning to decrease the frequency of implementation of Phonics Bug, they were beginning to use Grammar Bug more selectively and slightly more frequently. A reported initial average usage of 0.647059 times a week had risen to 0.684211 times a week. Whilst still used considerably less than Bug Club print readers and the ORW, teachers were becoming more aware of the new curriculum requirements to teach grammar explicitly and perceived the materials useful to support them to teach effectively. However, this resource was not covered in the training that every school received as they began their implementation.  Its potential for supporting teachers was a self-discovery rather than a supported aspect of implementation. It is possible that teachers felt insecure with its use as a teaching programme.

**Questionnaire data shows that 'experienced' Bug Club schools use comics more frequently after beginning to implement Bug Club.**  In January 2015, as baseline measures were collected, **46.87%** of teachers in Bug Club schools stated that they regularly used Bug Club comics in their literacy programmes.  This proportion had risen to **81.25%** by July 2015, after 5.5 months of Bug Club implementation.  However, comics do not gain as much popularity with the schools beginning Bug Club implementation in January 2016.  In the 106 questionnaires returned in January 2016, just 38.67% of all teachers responded that they used the comics in literacy programmes.  This rises slightly to 54.35% by July 2016, though not to the proportion seen in experienced Bug Club schools in July 2015.

## 2. What does implementation look like in classrooms where reading gains are high?

**Interview data from 13 teachers of classes with above average reading gains showed high levels of adaptation.** Teachers of classes with above average reading gains described how they selected materials as appropriate for their children, were creative in their use of the resources available to them, and would seek to source material to fill perceived gaps in provision. Bug Club did not conflict with this, and was well integrated into the teaching provision of these teachers. Teachers of the above average reading gains group were more likely to adapt the implementation to their needs using non-Bug Club materials and did not use Bug Club materials more or more consistently than other teachers.

**Teachers of classes with higher than average reading gains stated that they consistently shared planning with the Teaching Assistant (TA) in their class, and that specific groups were identified to enable the TA to follow-through.** There was a prevailing tendency for TAs to be assigned the lower groups and to lead on interventions for these children.

**Questionnaires completed by all teachers in the study reported that seven of the 13 classrooms in the high reading gains group organised for the children to read more than five books a week at home.** This was not confined to Bug Club texts and ORW but included them. However, only one of the teachers in the lowest reading gains group reported that children read more than five books a week at home. This suggests that one of the differences between high reading gains classes and low reading gains classes is the success of the home reading strategy and engaging parents. This comparative success with parental engagement for reading at home could include social factors, pupil factors and teacher factors.

**Teachers in the classes with higher than average reading gains reported that they consistently adapted the Bug Club materials rather than use them as suggested.** Interviews with the teachers in classes with higher than average reading gains provide explicit comments that they rarely used materials as described in teacher guidance, preferring to use ongoing formative assessment to shape how they implemented Bug Club, and whether to abandon Bug Club in favour of resources that they felt more pertinent to meet the learner needs. Supporting the interpretation that this is a key difference, when the 10 highest and the 10 lowest achieving classes in the six case schools were compared, four of 10 teachers in the high reading gains group reported that they used Teacher Support materials, whereas nine of 10 teachers in the low reading

gains group indicated this.  Therefore, more teachers in the low reading gains group routinely used the Teacher Support materials.  This appears to indicate a greater degree of personalization to both class and individual in the high reading gains group, rather than Bug Club itself being a factor.

**Questionnaires collected at A1, A2 and A3 showed that teachers of high reading gains classes were twice as likely to integrate technology into their literacy teaching.**  When the 10 highest and the 10 lowest achieving classes in the six case schools were compared, six of the 10 teachers in the high reading gains group reported they regularly used technology to support literacy whereas just three of 10 teachers in the low reading gains group reported regular use of technology.

**Interviews and questionnaires provided evidence that teachers of classes with high reading gains have particular characteristics of pedagogy but do not use Bug Club products with higher frequency.  Data suggest that they adapt and develop materials (and are therefore showing less fidelity to Bug Club) than teachers in classes with low reading gains.**   The majority of classes with the highest reading gains (10 of 13) used Bug Club guided reading books every day. The frequency of use of online texts in the classroom was much lower.  10 of 13 teachers in classes with the highest reading gains used Phonics Bug, though infrequently and to complement other resources and other phonics programmes (Read Write Inc and Letters and Sounds, for example). 11 of the 13 teachers in classes with the highest reading gains used Phonics Online as a complementary resource.  Use of the Grammar and Spelling materials were low in frequency.  None of the teachers in classes with the highest reading gains used Bug Club only whereas many classrooms with lower reading gains did.  Teacher Experience was not a factor in attaining high reading gains and there was no advantage to being in a Y1 or a Y2 class.  There is a higher frequency of reading at home reported in classes with the highest reading gains.  Children were seven times more likely to read more than five books a week in the classes with the highest reading gains.  Teachers in classes with the highest reading gains report greater success with parental engagement in home reading, though this may not involve use of the ORW.  Children were twice as likely to use technology as part of their literacy provision in the classes with the highest reading gains, though again this may not mean use of Bug Club resources.

Surveys of frequency of usage were completed to explore what teachers used in their classrooms, how often they used Bug Club materials and how frequently they used other resources.  The surveys were gathered on a monthly basis throughout the 18 months of the study.  **Teachers of classes with above average reading gains implement guided reading and home reading more frequently than teachers of average and below**

**reading gains classes. However, they do not use Bug Club materials more frequently, showing a high rate of usage of other materials. The frequency of the pedagogy rather than the materials would seem to link to better reading gains.**

**3. Were there changes in usage? If so, why did teachers make those changes?**

**Telephone interviews with 21 teachers in 'experienced' and 'new' Bug Club schools not amongst the six case schools showed that teachers were consistent in their usage of some Bug Club materials across the period of implementation.** Bug Club print readers were consistently used on average just over 4 times a week, with Phonics Bug print readers being consistently used just over 2 1/2 times a week, Phonics Bug online reader just over once a week on average, Phonics online, around twice a week on average and Spelling Bug less than once a week on average. Bug Club print books for guided reading have the most frequent usage at both initial implementation and point of data collection in November 2016. Phonics Bug online is the least used Bug Club resource, at both points.

**Usage of Phonics Online reported in the telephone interviews with 21 teachers did increase drastically in a small number of cases, as demonstrated by the mode of 'five times a week' in November 2016, but this is not a general trend, as the mean of 2.36 from a possible five and standard deviation of 1.80 demonstrate**. This supports the finding that in schools who already have a phonics scheme in place at the point of adoption, usage of Phonics Online remains very low if it is used at all. Usage of Spelling Bug increases very slightly from 0.64 times a week, to 0.68 times a week.

**Findings from the telephone interviews support teacher reports in the case study schools and the survey of usage requested of all teachers across the 36 schools show that ORW is hardly used at all in the classroom.** This is demonstrated by the low mean usage of 0.35 times a week.

**Reports in the telephone interviews suggests that the fall in usage is most pronounced in the case of the use of ORW at home**. Usage of ORW for home reading is low at initial implementation, with a mode of twice a week to begin with and decreases very slightly, as demonstrated by the slightly lower mean usage. The large standard deviation shows a wide distribution of mean scores; this indicates that in some schools and classes, regular use of PRW for home reading is maintained.

**The highest usage reported across surveys, interviews and telephone interviews is consistently the Bug Club print copy books for guided reading.** Data from the surveys of usage and the telephone interviews supports the findings from the six case schools and would suggest that findings from the six case study schools can be tentatively generalised to other schools in the study.

**Usage of ORW, online versions of both Phonics Bug and Bug Club books for guided reading decline across the period of implementation.** Teachers were asked to reflect on the rationales for the changes in frequency of usage. Rationales for decrease were given as allocation of books being too cumbersome to manage on a day-to-day basis and a perceived fall in parent and child motivation. Five of the 21 teachers mentioned adapting usage for SATs. They referred to the general need to focus on preparing Y2 children for SATs and how this occurred every year and therefore, usage of ORW would decrease through the year in Y2 every year as a matter of course. Just one of 21 that responded to the question about why usage had changed by referring to the specific year and the challenges a change in policy had created. These findings would suggest that whilst a very small number of teachers may have made unique decisions about decreasing usage, changes in usage across the year represent the pattern that occurs annually in the ways that schools manage provision for preparing for SATs in Year 2. None of the 21 teachers felt that there had been a negative impact on the children's attainment in either the InCas reading test or assessments more generally due to their decreased usage of the resources.

## 4. What are the characteristics of the highest and lowest attaining pupils?

After five months of usage, Bug Club made a highly statistically significant impact on children's reading, vocabulary and spelling performance. This was evidenced by the InCAS standardised reading measure and all subscales (Table 2 below). Children in the Bug Club schools made 1.65 more points progress on the standardised reading measure than children in the control schools, a small but highly significant effect.

| Test | Bug Club children average advantage gains v control children | Statistical significance | Effect size (Cohen's d) |
|---|---|---|---|
| Reading standardised | 1.65 standardised points | Yes | .11 (small effect) |
| *Reading sub-tests* | | | |
| Word recognition | 1 month | Yes | .06 (small effect) |
| Word decoding | 3 months | Yes | .13 (small effect) |
| Comprehension | 2 months | Yes | .06 (small effect) |
| Spelling | 3 months | Yes | .15 (small effect) |
| Picture vocabulary | 1.5 months | Yes | .08 (small effect) |

*Table 2: Summary of findings, comparing Bug Club and control children at on literacy outcomes*

Children in the six case schools for Phase 3 were identified and their attainment scores were divided in quartiles so that the characteristics of the highest and lowest attaining children could be explored.

**Pupil attainment data suggest that growing up in poverty and having English as an additional language make it less likely that a child will appear in the highest 20% of reading gain scores, since around 22% and 26% of children in the high reading gains group were identified as growing up in disadvantage or learning English as an additional language respectively.** Pupil attainment data show that 44 of 60 children (73.33%) were English first language children, with just 16 of 60 children learning English as an additional language. 47 of 60 children (78.33%) had no label of disadvantage, leaving just 13 of 60 children in the highest 20% of scores identified as receiving Pupil Premium. Just 5 of 60 children (8.33%) in the highest 20% of reading gains score were identified as growing up in disadvantage and learning English as an additional language

respectively, less than half the chance of being in the top 20% than EAL or disadvantage alone.  It may be that these two characteristics act as a double deficit to achievement.

**In interview data, there was no difference in reported reading frequency between the highest and lowest reading gains groups**. It may be that responses to questions about reading habits were influenced by social desirability factors.

**Grouping reading gains according to school revealed that schools with high levels of disadvantage and EAL had higher proportions of children in the highest reading gains group.  More of the children in the high gains groups were in schools that served more disadvantaged pupils. Schools with less apparent need were less well represented among the highest reading gains.**  Some schools countered the effects of FSM and EAL indicators at the school level (i.e. when taking school and class means into account), but others were less successful. This is supported by the RCT which found that Bug Club had a greater impact (relative to control children) on reading gains for pupils in receipt of Pupil Premium.

**5. What can we infer about the impact of usage on attainment?**

The nature of the data created by the online platform does not allow exploration to be granular (i.e. to look at the smallest elements of usage, the level of allocation and access by each individual child).  The online platform collects 'completions' of books alone, with no data pertaining to teacher activity recorded on the platform.  Therefore, findings relate to completions, not usage.

**Of the 15 schools who showed completions less than the mean during 2014-15, just one third (5 schools) reversed that trend to exceed the mean in 2015-16, suggesting that if the school do not get off to a good start with implementing ORW, it is very hard to overcome that poor start at a later date.**  Patterns of completion seen across the 21 'experienced' Bug Club schools support the findings in the six case study schools where teachers reported lower ORW use in general.

**Analysing the total completions for the years 2014-15 and then 2015-16, it is clear that in 11 of 21 experienced Bug Club schools there was a marked decrease in completion.**  This means that for over half the children in the Bug Club 'experienced' schools starting Bug Club implementation in January 2015, there was marked drop in the number of times they read a book, completed the quizzes and received a reward to spend on playing games as the design intends.

**Plotting the completions for the classes with high reading gains and the patterns of completion suggests that there is not a link between completion and reading gains**. The 13 teachers of classes attaining high reading gains showed a decrease in completions for the year group they were teaching, yet the attainment scores remained above average.

**Influences on the implementation of Bug Club**

There would seem to be four aspects that influence the degree to which the implementation can be consistently effective; commitment, professional understanding, participant motivation and balance between fidelity and adaptation.



*Figure 3: Influences on effective implementation of Bug Club*

The model of influences above shows how implementation is shaped by a range of influences, some relating to contextual features, some to teacher skill and some to community features. The influences build up and interact to shape the degree to which the implementation is effective. A beginning step to effective implementation is commitment; a school and its teachers need to make a commitment to initiate an implementation of Bug Club by going through some important set-up steps and by

26

committing time to staff training prior to or close to the time that resources are available for use.  The extent to which this is effective appears to have an influence on effectiveness at a later stage. When commitment to implement has been created, professional knowledge influences how teachers interact with the materials and provide teaching that produces quality child outcomes.  Participant motivation (at Key Stage 1 this refers to children and parents) exerts an influence on whether commitment is maintained after a period of initial engagement.  If it is perceived that either child or parent motivation has decreased, this seems to result in a reduction in commitment on behalf of the teachers and school leadership. If commitment is maintained, teachers begin to adapt the implementation and deployment of resources to meet the needs of their children.  If this balanced with fidelity to the successful elements and adaptation of the less successful, then the implementation produces effective results.

### *Conclusion*

The findings of this study clearly demonstrate that Bug Club is not teacher proof; its usage alone cannot ensure expected or above expected progress for the children using it.   Whilst a recipe for success does not emerge from the findings, there have been some useful messages.  Perhaps the most notable amongst these relate to

- the importance of professional development for teachers and schools beginning to implement a new programme of resources,
- the need for teachers to have the pedagogic understanding to adapt the BC resources to meet the needs of their own class,
- the need to ensure that teachers have the technology skills to deliver online materials effectively,
- the need for consistent and iterative attention to home-school initiatives,
- the support needed for parents to sustain motivation for home reading, and
- the need for age-appropriate design of materials to encourage continued motivation for positive reading habits.

Teachers' professional knowledge and expertise are suggested as the variable with the most impact on readings gains which are age commensurate or above.  Much of the literature regarding teacher professional learning would support this interpretation. Frequency and consistency of usage were not linked to high reading gains; high adaptability and consistent, frequent use of evidence based instructional strategies were. Use of non-Bug Club resources was reportedly more frequent in the higher than average

reading gains classes that were part of this study. It was the quality of the teaching not the presence of Bug Club that derived higher than average reading gains.

Teachers however did feel that Bug Club provided suitable tools for them to teach effectively. So what did the teachers involved in this study consider important in a Bug Club implementation? In the supplementary interviews in November, to consider whether the changes made to the implementation over time were typical of schools generally, teachers were asked to identify three things they thought were important in making Bug Club work well (though not ranked in order of importance). The table below lists the number of times a particular theme occurred.

| Theme | Exp (n=10) | New (n=11) | Total number of references |
|---|---|---|---|
| Frequency/regular/consistent usage | 4 | 5 | 9 |
| Familiarity with materials (including initial PD) | 4 | 4 | 8 |
| Adaptability/differentiation/flexibility of materials – to teacher style and needs of children | 5 | 3 | 8 |
| Child motivation and engagement/choice/accessibility | 3 | 4 | 7 |
| Range/variety/attraction of materials | 4 | 2 | 6 |
| Use of assessment/monitoring/tracking (e.g. using book bands) | 3 | 3 | 6 |
| Parental engagement | 2 | 3 | 5 |
| IT support and reliability | 1 | 1 | 2 |
| Interactive teaching | 1 | 1 | 2 |
| TA engagement | 0 | 1 | 1 |

*Table 3: Teachers' views on successful implementation of Bug Club*

Whilst numbers interviewed were small, so generalisation difficult, almost half the teachers interviewed viewed the regular and consistent use of Bug Club within their classroom provision to be an important factor: *'Having regular daily or weekly slots for reading, guided reading, class activities and so on make the children become more*

*independent and get into good reading habits'* (S22T1). This importance was perceived fairly equally amongst the new teachers and the more experienced Bug Club users.

Half of the experienced teachers cited adaptability of the materials as an important factor, being able to adapt to the needs of the children in their class and to their own teaching style: '*Use the parts that suit your school, class and individuals'* (S17T1). A smaller number of the new teachers gave adaptability as one of their important factors (just under one in 3), suggesting that familiarity with the Bug Club range of materials needed to be established before teachers felt comfortable with adapting to suit their needs: *'To make the phonics work, I find I have to adapt it to make it a bit more practical. But that may just be to do with the needs in my classroom. My children need to be up and about a bit more. I just change the way I do it a little bit'* (S24T1).

Teachers considered the most important aspects in an effective implementation of Bug Club to be confidence to use materials regularly and appropriately recognising their place in a literacy learning curriculum and to adapt materials in response to the needs of the specific children and the context of the school. Both the teachers' own words and the findings of this study would point to the pressing need for support for Pearson to be focused on professional learning in these key areas rather than product training to be key to the continued motivation for and usage of Bug Club.

**MAIN REPORT**

*Introduction*

Bug Club is a set of materials to develop reading for meaning, non-fiction skills, word reading skills and spelling and grammar skills across the whole school. There is also an online reading platform (referred to as the Online Reading World (ORW) which can be supported by parents and carers in the home as well as used for classroom activities. Bug Club is more frequently implemented in Key Stage 1 and is currently implemented in over 5000 schools in the UK. Teacher support and guidance for both pedagogy and delivery is provided through Photocopiable Masters (PCMs) that link to the texts, a range of assessment materials in both hard copy and electronic form, and inner notes for guided reading lessons and follow up activities. The combination of two or more sets of resources is referred to as an implementation.

This document reports the findings from the third phase of a longitudinal multi-strategy study. The study was undertaken to explore the impact and implementation of Bug Club and conducted by UCL Institute of Education (IOE) and Pearson Research and Efficacy team.

*Why is Bug Club referred to as an implementation in this report?*

Pearson refer to Bug Club as a reading programme. It has a collection of resources that are said to complement each other and contribute to an effective classroom literacy environment. Whilst the benefits of using several elements of Bug Club are implicit, schools are not required to adopt all of the resources, are not advised as to any particular sequence of roll-out activities and are not advised to use solely Bug Club resources. Therefore, what each school actually does as they use Bug Club materials varies considerably. References to 'the Bug Club reading programme' do not constitute the same contents or delivery. Therefore, what happened in each school taking part in the study is referred to as an <u>implementation</u>; each school used the materials and approaches to some degree but they did not follow (nor were they asked to follow) a script or specified set of activities. Each school had a unique implementation of Bug Club. Simply put, an implementation refers to the set of actions that a school chose to do as they used Bug Club, and the specific resources they chose to use.

For the purposes of this study, a threshold for a school's engagement was stipulated; a day's training (or equivalent) in the range of available resources, use of the Bug Club guided reading books and the Online Reading World. Schools were not advised or required to implement these in any particular way although a minimum threshold by

which to evaluate the implementation was devised and shared with the schools (Appendix 1). Schools were also offered activities that, whilst encouraged, were not stipulated; the Phonics Bug books, the Phonics online interactive teaching resource, the Teacher Support materials for each resource and the Spelling and Grammar materials. These resources were offered to schools as optional elements of their implementation and teachers were free to decide what they used. The phonics approach the school already had influenced this decision in many of the schools that began using Bug Club in January 2015.

The frequency and the manner of use of materials that are designed to resource an implementation of Bug Club are referred to as usage. The many resources can have different usage in different classrooms, but all of the classrooms can be regarded as having a Bug Club implementation.


*Background*

The collaboration between the Pearson Research and Efficacy team and the UCL Institute of Education (IOE), which was established to explore initial engagement, impact, attainment and effective implementation of Bug Club, has spanned more than 18 months, involving three distinct phases of research activity and five data collection points.

Phase 1 - During January- July 2015, 1510 children and 36 schools participated in a randomised control trial (RCT). Phase 1 of the research study spanned January 2015 – July 2016, some 5.5 months of the study. To explore and evaluate the processes of implementation and participant engagement, teachers in all schools responded to a questionnaire at several points in time (baseline, A1, A2 and A3) to assess changes in attitude and reported confidence. A sample of teachers from both experiment and control schools were also surveyed during Phase 1 in order to explore literacy teaching practices. In addition, children, parents, teachers and head teachers in ten case schools identified from within the experiment schools were interviewed and some teachers were observed using Bug Club resources.

Phase 2 - The control group joined the experimental group to implement Bug Club. RCT measures of child attainment and attitude were collected in January 2016 at data collection point A2.

(i)       Measures of child attainment and attitude were collected again.   Additionally, six schools were identified to provide case examples of the Bug Club implementation after 18 months.  Children, parents and teachers were interviewed to explore whether motivation and perceptions of worth had been maintained, increased or decreased.  Teachers of classes with higher than the mean reading gain score were approached to discuss in detail the implementation patterns adopted in order to develop some models of effective implementation.

(ii)      Teachers from across the 30 schools remaining after the six case schools were identified were approached for a short telephone interview following analysis of the main data collection in order to triangulate and check the emerging interpretations.

The table below shows the three time phases and five data collection time points across the 18 months of the study.

| Data collection point | Time period | Data collected | Participants |
|---|---|---|---|
| **Baseline - January 2015** | | • Measures of child attitude and attainment<br>• Teacher attitude questionnaire | • 1510 children (1147 intervention, 737 control)<br>• 115 teachers (74 intervention, 41 control) across 36 schools |
| | **Phase 1**<br>January 2015 – July 2015<br>Data collected in July 2015 | • Teacher attitude questionnaire<br>• Implementation survey in all classes<br>• Interviews with children, parents and teachers from 10 case schools | • 164 children<br>• 113 teachers<br>• 41 parents across 10 intervention schools |
| **A1 July 2015** | | • Measures of child attitude and attainment<br>• Teacher attitude questionnaire<br>• Implementation survey in all classes | • 1510 children (980 intervention, 715 control)<br>• 115 teachers (74 intervention, 41 control) across 36 schools |
| | **Phase 2[5]**<br>July 2015 – January 2016 | | |
| **A2 - January 2016** | | • Measures of child attitude and attainment<br>• Teacher attitude questionnaire<br>• Implementation survey in all classes | • 2450 children (1735 intervention, 715 'historic'[6] control)<br>• 117 teachers (all implementing BUG CLUB ) across 36 schools |

[5] At Phase 2, the control schools began to implement Bug Club, therefore becoming intervention schools.
[6] The control used is made up of the control measurements gained at A1.

| | | | |
|---|---|---|---|
| | **Phase 3**<br>January 2016 – July 2016<br>Data collected in July 2015 | • Interviews with children, parents and teachers from six case schools<br>• Interviews with teachers of classes with high reading gains.<br>• Telephone interviews with teachers in both 'new' and 'experienced' Bug Club schools | • 83 children (54 Y2 and 29 Y1)<br>• 115 teachers<br>• 28 parents<br>across 10 intervention schools<br><br>21 teachers<br><br>21 teachers across the remaining 'experienced' and 'new' Bug Club schools |
| **A3 - July 2016** | | • Measures of child attitude and attainment<br>• Teacher attitude questionnaire<br>• Implementation survey in all classes | • 1510 children (980 intervention, 715 control)<br>• 115 teachers (74 intervention, 41 control) across 36 schools |

*Table 4: Data collection across three phases of research*

This document reports on data collected at the end of Phase 3 (see
https://www.pearson.com/efficacy-and-research/efficacy-reports/bug-club.html for reports
on the findings of the other 2 phases).

**Aims**

The process evaluation at Phase 3 focused on the experiences of children, parents,
class teachers, literacy coordinators and head teachers in schools where Bug Club had
been implemented for around 18 months.  The research goals were to;

- Explore how schools continue to develop their stated plans for the implementation of Bug
  Club after 5.5 months of usage.
- Explore whether high levels of initial engagement self-reported by teachers translate into
  continued engagement and motivation to maintain implementation.
- Explore whether high levels of initial satisfaction self-reported by children and parents
  translate into continued engagement and usage.
- Explore any changes in usage, both in the six Phase 3 case study schools and more
  widely.
- Identify and deepen understanding of effective models of implementation and the factors
  influencing effective implementation.
- Explore child, class and school factors that may influence high or low reading gain
  scores.

**Methodology**

*Design*

A multi-strategy flexible design involving multiple cases was used to create a means by
which to explore the research areas above.  A multiple case design allowed cases to be
drawn together to look at several aspects of continued implementation, sampling
purposively for each research probe.  One case study of six schools allowed exploration
of continued engagement and motivation and provided an in-depth picture of each
school, involving children, parents, class teachers in both Y1 and Y2 and senior
management. Child attainment data and data from the online learning platform were
used to understand how school experiences and child characteristics changed over time
and might further influence continued usage and motivation. A further case of teachers in
classes with high reading gain scores was brought together to explore implementation
and delivery in classrooms where reading gain means were consistently high.

Teachers from across the 30 schools remaining after the six case schools were identified were approached for a short telephone interview following analysis of the main data collection in order to triangulate and check the emerging interpretations. 21 teachers were interviewed.

All case studies involved qualitative and quantitative methods of data collection.

*Recruitment to Phase 3*

Schools were recruited from the 'experienced' Bug Club schools that formed the intervention[7] group in Phase 1. This group comprised 21 schools. In Phase 1, all intervention schools were provided with Bug Club Key Stage 1 readers, Phonics Bug Key Stage 1 readers, Teacher Resource materials, Spelling and Grammar materials, a computer-based whole class phonics teaching programme and access to the Online Reading World. The latter includes texts that can be allocated to individual children and tracking and assessment features, technical support and a professional development session provided by Pearson focused on how to use the resources and how they link to curriculum elements.

Participants for each of the multiple cases were purposively sampled from this group of schools in order to explore continued implementation and motivation for usage from the perspectives of school management, class teachers, parents and children.

Two sets of participants were selected to provide opportunities to explore the research areas presented above:

(i)     In order to consider continued motivation for usage, Phase 1 interview data was used to identify schools that showed clear signs of strong motivation of intent to use Bug Club in the academic year following and evidence of planning to do so. In other words, environments where motivation for continued usage was high were identified. Using this approach, six schools were selected as Phase 3 case study schools, providing interview data from 29 Year 1 children, 54 Year 2 children, 26 teachers and 28 parents.

(ii)    To explore features of classrooms and teachers where implementation was particularly successful, (i.e. the highest reading gains at data collection points A1 and A2) mean

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[7] 'Intervention group' refers to the group of schools that implement Bug Club.

| School | Name | Class teacher | Lit Co | Headteacher | High gains teacher |
|---|---|---|---|---|---|
| S6 | S6T2 | ✓ | ✓ | | ✓ |
| S6 | S6T4 | ✓ | | | |
| S12 | S12T1 | | | | ✓ |
| S12 | S12T4 | | | | ✓ |
| S9 | S9T3 | ✓ | | | ✓ |
| S9 | S9T1 | | | ✓ | |
| S9 | S9T7 | | ✓ | | |
| S13 | S13T2 | | | | ✓ |
| S14 | S14T2 | | | | ✓ |
| S5 | S5T2 | | | | ✓ |
| S4 | S4T3 | ✓ | | | |
| S4 | S4T7 | ✓ | | | |
| S4 | S4T5 | | ✓ | | |
| S4 | S4T6 | | | | ✓ |
| S4 | S4T1 | | | ✓ | |
| S17 | S17T2 | | | | ✓ |
| S3 | S3T2 | ✓ | ✓ | | ✓ |
| S3 | S3T4 | ✓ | | | |
| S3 | S3T! | | | ✓ | |
| S1 | S1T3 | | | | ✓ |
| S1 | S1T2 | ✓ | ✓ | | |
| S1 | S1T1 | | | ✓ | |
| S1 | S1T4 | ✓ | | | ✓ |
| S20 | S20T1 | | | | ✓ |
| S7 | S7T1 | | ✓ | ✓ | |
| S7 | S7T3 | ✓ | | | |
| **Total** | **26 teachers** | **10** | **6** | **5** | **13** |

scores for all classes in experiment schools in Phase 1 and Phase 2 were divided in quartiles. Teachers from classes in the highest reading gain score quartile were invited to participate. Eighteen teachers were identified as teaching classes with above average reading gains (at A1 and A2). Some teachers had retired and one was on maternity leave at the point of data collection. Thirteen teachers agreed to participate in the study at this point.

As the table below demonstrates, in some instances teachers were participants in more than one case.

*Table 5: Teacher participants*

*Methods of Data Collection*

A.    Face-to-face in-depth semi structured interviews with head teachers, literacy coordinators and class teachers were designed to allow reflection on the year they had spent using the Bug Club materials, how they were currently using them, how frequently and why any changes in usage and implementation had been introduced (see Appendix 2).

B.    Face-to-face semi structured interviews with Y1 children were used to gauge whether the initially high engagement and enjoyment seen in Phase 1 would be a feature of child perception more generally.   Books and iPads were used to stimulate conversation and evaluation of materials, so young children were not reliant on memory (see Appendix 3).

C.    Face-to-face semi structured interviews with the Y2 children from Phase 1, now some 12 months later, focused on helping children to consider whether their opinions of quality and enjoyment had changed and whether the materials continued to be a motivation to read.  All children asked to reflect in this way were aged 7 years or almost 7.  Discussion requiring the children to talk about how they now perceived the Bug Club materials was piloted to ensure that the language was as simple as possible so that the responses were made with complete understanding.  There were a very small number of children (3 of 83) that found it difficult to answer questions requiring reflection.  These answers were removed from any quantitative analysis so as not to misrepresent the balance of opinions (Appendix 4)

D.    Focus group interviews with parents explored whether children' motivation to read at home using the ORW had continued and whether parents perceived Bug Club to have been directly responsible for changes in child motivation to read and attitude to reading (see Appendix 5).

E.    Telephone interviews with the teachers of classes with high reading gains explored the patterns and frequency of implementation and probed how these teachers implemented Bug Club and integrated it into their existing literacy teaching practices.  The aim here was to identify approaches and patterns of implementation in common for these high reading gain environments (Appendix 6).

F.    To gain insight into whether implementation differed in classes with lower reading gains, data collected during Phase 1 was used in a different way.  Questionnaires undertaken at baseline in January 2015 were used again, now extracting the responses of the 13

teachers interviewed to consider if the responses supported the interpretation that they used the material differently and if their self-reported attitudes contrasted with the general trends (Appendix 7).

G.   To member check emerging interpretations, teachers from across the 30 schools remaining after the six case schools were identified and approached for a short telephone interview (Appendix 8). Eighty five teachers were contacted by email. These were both full time and part time and were participating in the study in schools (both 'experienced' and 'new') that were not amongst the case schools for Phase 3.  Twenty one teachers agreed to be interviewed, giving a response rate of 25%.

*Data Analysis*

Semi structured interview data with children, teachers and parents were analysed inductively to produce key themes.

Questions regarding rating enjoyment and motivation for Bug Club materials and estimating frequency of usage were analysed quantitatively.  The numbers of participants are relatively small so raw figures and percentages are reported.

Questionnaires collected in Phase 1 were quantitatively analysed to see how the two groups described in (F) above compared and if the classes with high reading gains group of teachers had clear differences in reported attitude and implementation.

Attainment data collected at A1 and A2 were analysed to explore characteristics of high and low attaining children.

*Ethics*

Schools were identified in an ethical way.   In Phase 1 schools were identified via their approaches of interest in buying Bug Club, telephone calls to schools interested in Bug Club materials and a mail shot.  Schools were invited to participate and assured that the materials they needed to implement Bug Club would be provided.  Groups were randomly allocated to the experiment and control groups for Phase 1 after an initial sample was identified.  Informed consent was gained from head teachers, teachers, parents and children (Appendix 9).

Schools were approached again to participate in Phase 3.  Telephone calls and emails offered the first point of communication.  Detailed information setting out the time commitment was then sent to each school and each participating teacher.  Materials to share with parents and children were provided for schools and permission for

participation was also requested from each participant before data collection started in each school.

*Informed consent*

<u>Case schools</u>

- All schools self-identified for this project in Phase 1.
- All teachers were approached individually for consent to participate again in Phase 3.
- Children were asked if they wish to participate at the point of data collection – if they did not another child was randomly identified –consent forms were collected (smiley faces and 'signature') (Appendix 10).
- Parents of Y1 and Y2 children were approached by word of mouth by the study link in each school[8] to participate in a focus group in each of the ten case schools.  Consent in writing was gathered at the point of data collection.
- Parents were approached for permission to gather assessment data about literacy attainment via an opt-out process.

<u>DBS[9] Clearance</u>

- Every member of the research team going into schools to collect data had a current enhanced DBS clearance which they provided to the school prior to the visit.
- Accommodation to interview and hold the focus groups with parents, and for interviews with children was identified by each school to meet safe-guarding standards.

<u>Data storage</u>

- Questionnaire and survey data were collected online, and held on a password protected website.
- Usage data drawn from the online learning platform was collected per school and then disaggregated for year group.  No teacher or child name was provided for the researchers.

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[8] Each school identified a Study Lead to liaise with the Person Research and Efficiency team around assessment of children, consent processes and visits to interview and observe.
[9] The Disclosure Barring Service ensures that all adults coming into contact with children in schools have been checked by the relevant authorities.  It replaced the Criminal Records Bureau processes.

- Interviews were audio recorded and then typed up. Recordings were kept until transcripts had been completed and then destroyed.

- Interview and observation data involved handwritten notes which were then typed up and saved as electronic documents.

- All data were given an identifying code for each school, teacher and child. No names were used in the analysis processes. Participants were given pseudonyms to enable effective reporting.

- All analyses were kept on a password protected data stick.

*Confidentiality*

- Schools were assured that teacher, parent and children's names (as well as schools' names) would not be used in any data collection, analysis or reporting activities.

- Schools will be acknowledged in all publications arising from the longitudinal study as assisting in the standardisation process if they wish; head teachers were asked if they wished their school to remain un-acknowledged.

*Participating children*

Permission for involvement in the research was re-established at the beginning of the Phase 3. All elements of the project were outlined in initial communication between Pearson and schools in January 2015, and repeated prior to data collection in July 2015.

Y1 children from six schools (drawn purposively from the intervention group to form a case exploring continued motivation and usage) were randomly sampled. Parents of these children had already given permission for their child's participation to be requested from the children themselves. Interview schedules were piloted with children of the same age not involved in this study. The interviews took between five - seven minutes when the child was interviewed. Children were given the option to be interviewed in pairs or by themselves.

Y2 children had been interviewed in July 2015 (when they had been in Y1). Permission was sought from both parents and children to participate again in this third phase. The interview schedules were piloted with Y2 children not involved in this study to make sure that the language used to stimulate evaluation and reflection was as simple as possible. The interviews took between 8-10 minutes. Children were given the option to be interviewed in pairs or by themselves.

All interviews took place in the school environment with other children, teachers and other familiar adults around them.  Safeguarding principles were followed at all times. On the day of the visit, children were approached and asked if they were willing to participate. This followed a standard approach; the purpose of the interview was shared with them: For Y1 children, this was to find out when they read, what they liked to read and what they thought about the Bug Club materials. For Y2 children, this was to explore whether their motivation to read in general and to read Bug Club materials in particular had been sustained.

Children were assured that everything said was confidential and that their name would not be used.   If they were in agreement they signed their name on a consent form that said '*I am happy to talk to X (*the researcher's name*) about reading and Bug Club'* and to tick a smiley face.

After this formal consent, researchers reminded the children that they did not have to answer all the questions and could stop at any time.  This guidance was included on the interview schedule to ensure that researchers adhered to the same process (Appendix 10).

*Minimising Risk*

The UCL Institute of Education research team are experienced teachers and researchers of young children, those with learning challenges and their teachers and families. Pearson staff working as part of the research team who were not qualified teachers or used to working with children were supported by using the observation schedules, interview frameworks and focus group probes, through rehearsal of a range of ethical responses to situations that might arise during the data collection and provision of a checklist with guidance for going into schools to collect data (Appendix 11).   This experience and familiarity with the context resulted in researchers being alert to any signs of discomfort or children becoming upset during data collection and pre-empt by changing the topic and activity.

**Findings**

**Is Motivation sustained?**

For the purposes of this report, motivation is defined as a process that initiates, guides, and maintains all goal-oriented behaviours, including reading, distinct from habit, attitude and interest. Three elements are crucial to learning to read[10];

- *Engagement* involves the decision or motivation to begin reading. Engaged learners are likely to want to return to reading, to improve and to engage with text meaning. Reading materials that provide high engagement are essential for children to want to read.
- *Persistence* or continued effort is the motivation to continue engagement, even though it may present challenges. This is important in processes that, like reading, take several years to accomplish. Reading materials need to be inclusive and enjoyable enough to stimulate continued effort on the part of the young reader.
- *Intensity* or strength of application to pursue and seek out reading activities. If one *really* wants to do something, the intensity of motivation will be high. It is therefore important that reading materials for young readers provide sufficiently powerful motive for engaging.

Findings from Phase 1 of this study (January to July 2015) established that children, parents and teachers were motivated by Bug Club materials in their schools (Bodman, Ahtaridou, Franklin, Dunne, Grima & Greene, 2015). At Phases 1 and 2, children in Bug Club schools made significantly more progress in reading, as measured by the InCAS standardized reading measure compared to children in the control group. At A1, children in the Bug Club schools made 1.65 more points progress on the standardized reading measure than children in other schools, a small but highly significant effect at A1 and 1.74 more points progress at A2 (from baseline), also statistically significant. All respondents during Phase 1 (class teachers, Literacy coordinators, head teachers and parents) reported that children demonstrated increased engagement with reading, and were reading more and for longer. Bug Club materials were perceived to be motivating and were considered to be effective teaching tools for even the most reluctant readers.

Materials contributed to all phases of motivation described above. In order to establish if motivation would be replicated in further roll out cohorts, Y1 children beginning to use Bug Club in September 2015 were asked to evaluate a range of Bug Club products; the Bug Club print books for guided reading (fiction and non-fiction), Phonics Bug, Phonics Online and the Online Reading World (ORW). This area of the interview was supported using examples of the specific types of books and materials in order to ensure the topic

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[10] Wigfield, A., & Guthrie, J. T. (1997). Relations of children's motivation for reading to the amount and breadth of their reading. *Journal of Educational Psychology, 89*, 420-432.

and focus of the discussion was clear to the children.  Children and teachers who had used Bug Club materials in Phase 1 of this study were interviewed to explore how motivation was sustained and supported by Bug Club materials, around 18 months after their initial introduction.  Parents were also interviewed to explore how the ORW was being used at home and whether parents perceived changes in their child's attainment, attitude, enjoyment or motivation that they linked to the introduction and ongoing access to Bug Club generally, and the ORW in particular.  The next section reports those findings.

**Pupil Motivation**

 (i) <u>Engagement</u>

In Phase 1, 164 Y1 and Y2 children were interviewed to explore their enjoyment of Bug Club materials.   98.17% reported that they enjoy Bug Club style and content.  Evaluations frequently referred to the humour in the books and how they found this an enjoyable aspect of Bug Club.  Whilst pictures were sometimes linked to humour, they were also evaluated positively in their own right. The action and cartoon styles of some of the books was very popular, particularly the boys.  Evaluations were particularly positive about the non-fiction materials in Bug Club. Many of the comments make reference to the relevance of the topics and its appeal to Year 1 and Year 2 readers.

At Phase 3, the purpose of interviewing children in Y1 was to check that initial engagement remained high.  29 Year 1 children, 12 males and 17 females, from six schools were interviewed to explore initial engagement.  They were asked about their attitudes to reading and their reading preferences.

*Reading habits and attitudes*

**25** of **29** Y1 children interviewed said that they enjoyed reading (**19** really like reading, **6** like reading).  The proportion of Y1 children reporting to not like reading was broadly the same as in previous findings (**10.34%** in Phase 3 as opposed to **11%** in Phase 1).  The very small number of Y1 children accessed in Phase 3 (29 as opposed to 82 Y1 children in Phase 1) requires that the interpretation of the slight decrease in those reporting to enjoy reading with some caution.   It does however, suggest that in general, attitudes to reading show the same pattern and frequency as that seen in Phase 1.

**25 of 29 Y1 children** interviewed considered that they are either really good or good at reading (**16** perceive that they are really good at reading, **9** that they are good at reading). The proportion of Y1 children responding that they are not good at reading has reduced from almost **9%** in Phase 1 to almost **7%** in Phase 3. **4 of 29 (10.34%)** Y1 children did not feel that they learned quickly and easily (**8.25%** in Phase 1). Again here, the very small numbers of Y1 children in Phase 3 prevent the conclusion that fewer children have poor reading self-perception and confidence after around 18 months of Bug Club implementation within a particular school, but it does suggest that these aspects remain broadly similar even after around 18 months of Bug Club implementation in the school.

Three quarters of Y1 children said that they looked forward to reading (**22 of 29, 75.86%**) which is slightly more than the proportion of children that thought they were good at reading. **20 of 29** (**68.96%**) of Y1 children indicated that they enjoyed reading comics and magazines. This is in contrast to Phase 1 findings where only **25%** of children reported to enjoy reading comics and magazines. The small numbers of children accessed at Phase 3 need to be taken into consideration in any interpretation, but findings suggest that comics are more regularly offered in classrooms as a result of a Bug Club implementation.

In January 2015, as baseline measures were collected, **46.87%** of teachers stated that they regularly used Bug Club comics in their literacy programmes. This proportion had risen to **81.25%** by July 2015, after 5.5 months of Bug Club implementation. The Y1 teacher in S7 reflected on the increased use of many types of reading activity in the classroom; "*Attitudes towards reading definitely - because of their enjoyment of the online resources and also the comics. The boys love to go in and pick a comic and I'm trying to get a balance of comic, book, story book, comic to balance out a bit.*"
A similar trend, although not as marked, was evident when the control group joined the intervention group of schools implementing Bug Club in September 2015. In January 2016 (A2 data collection point), **38.67%** of teachers new to Bug Club implementation responded that they used comics in the classroom, rising to **54.34%** in July 2016 (A3 data collection point).

Teachers linked the use of comics to increased motivation, particularly boys. They perceived that Bug Club offered an effective resource; "*some of the boys - with some of the comics and the way the books are presented - their habits have changed. Now they will go to the reading area that I have in class, I find they like to read a little bit more*" (S4T3).

The S6 Literacy coordinator linked the use of comics to appealing to diverse child populations, saying *"the animated comics are very good because it appeals to a wider cultural range. We have very few white British children here so it is important we offer things to appeal to all."* The Literacy coordinator in S1 also saw the range as helpful to build child motivation; *"the variety and the different types of books like comics and animations etc. it makes them interested and want to read more."*

The Y1 teacher in S7 did draw attention to the fact that increasing the diversity of reading types in the classroom brings with it the responsibility to support parents to use the different types appropriately*; "they love the comic type though some parents find them a bit tricky with the speech bubbles all over the page, and some parents like to get a mix with the comics and then also a story book."*

However, comics do not gain as much popularity with the schools beginning Bug Club implementation in January 2016.  In the 106 questionnaires returned in January 2016, just 38.67% of all teachers responded that they used the comics in literacy programmes. This rises slightly to 54.35% by July 2016, though not to the proportion seen in experienced Bug Club schools in July 2015.

*Reading at home*

29 children Y1 children from the six case study schools were asked about their reading habits, and preferences.  All 29 children stated that they read at home.  When asked what they read, most children referred to the storybooks and information books they received from school but many talked about attending the local library and receiving books as gifts. **Eight** responses indicated a narrow reading diet, formed mainly of texts sent home by the school; but the majority of responses (**21**) referred to a range of types of text and reading for many purposes happening at home.

An overwhelming majority of Y1 children (**28 of 29; 96.5%)** indicated that they had read at home within the last week and just over half of the children reported that they read at home every day.   Reported frequency of reading at home has therefore increased slightly since Phase 1, with a greater proportion of children reporting reading at home almost every day.  This needs to be treated with caution since the Y1 sample size attainable was very small at Phase 3.

| Reported frequency | Every day/ Almost every day | 2-3 times a week/a few times a week | 1 day a week | Never/almost never | No response |
|---|---|---|---|---|---|
| **Phase 1 (Jan – July 2015)** <br><br> **N= 82 Y1 children** | 86 <br> 53.75% | 40 <br> 25.625% | 24 <br> 15% | 10 <br> 6.25% | 0 |
| **Phase 2 (Jan – July 2016)** <br><br> **N=29 Y1 children** | 22 <br> 75.86% | 2 <br> 6.90% | 4 <br> 13.79% | 0 | 1 <br> 3.45% |

*Table 6: Reported reading frequency at Phase 1 and Phase 3*

*Online reading at home*

The proportion of Y1 children reporting that they used the ORW at home during early implementation declined from just over **90%** (74 of 82 Y1 children) in Phase 1, to **62.06%** (18 of 29 Y1 children) in Phase 3.  Whilst this does align with teacher and parent reports of implementation patterns, the small number of children accessed at Phase 3 means that this needs to be interpreted with caution as in some schools, online completions showed an increase (see page 143). It is clear that amongst the six case study schools, home use of ORW declined by almost 30%, but this may not be the case in all of the schools implementing Bug Club.  For example, self-reports collected at A3 from children who began Bug Club in September 2015 show an increase in reading online at home. These may go on to decline in future months, echoing the pattern seen in children who started Bug Club in January 2015.

Figure 1 below shows how the reported increase and decline in online reading at home appears to cross, with the greatest frequency of online reading at home reported at different points as the rise and fall is influenced by when the children's experience began.

Children beginning Bug
Club in September 2015

Children beginning Bug
Club in January 2015
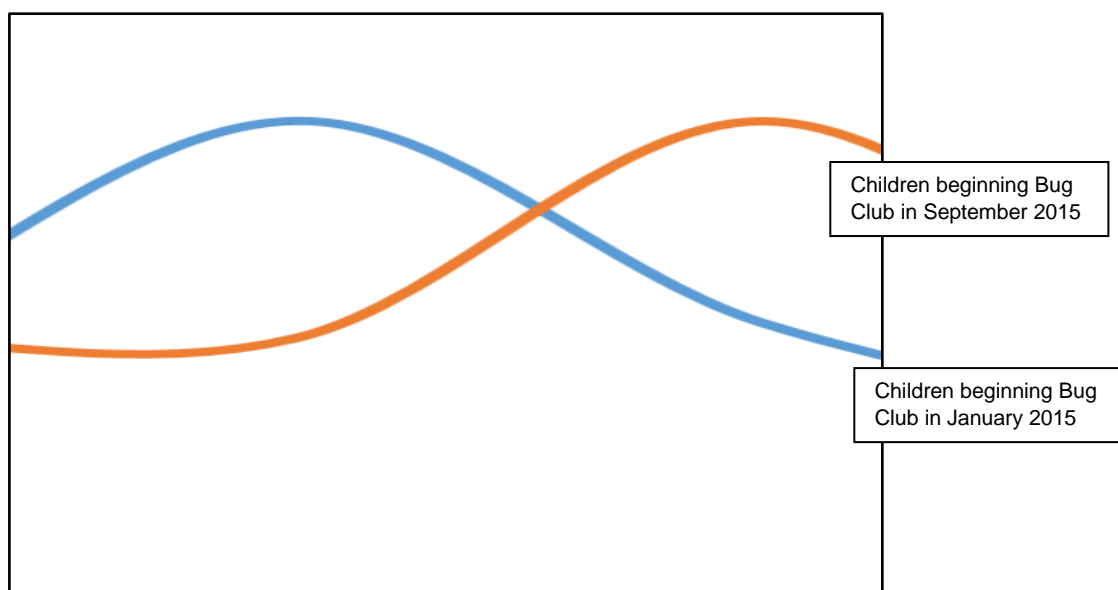
*Figure 4: Increase and decline of reported online reading at home, experiment and control schools*

**18 of 29** Y1 children (**62.06%)** also read books online in school, although this proportion comprised a different set of children than those indicating 'yes' to online reading at home, indicating that use in school does not always link to use at home.

Patterns of implementation of the ORW at home and at school are presented in more detail later in the report (see Section 3).

### Bug Club materials

Child evaluation of Bug Club materials was supported by use of a selection of the specific types of books and materials in order to ensure the topic and focus of the discussion was clear to the children.

*Bug Club Guided Reading books*

Children were asked if they liked Bug Cub print books.  All but one of the 29 responses indicated that the children liked Bug Club Books and enjoyed reading them.  Evaluations in this overwhelmingly positive evaluation ranged through the same topics as those in Phase 1; humour, quality of illustration, relevant and interesting, enjoyable stories, recognisable characters from TV and film.

S4P18 a child at S4 referred to the humour in the books; *"I like the funny photos when they are poking out their tongues."*

The quality of the illustrations was referred to frequently; for example S4P19 commented "*I like seeing pictures of how things work and seeing shiny cars. The best thing is the pictures.*" (S4P19 at S4)

S4P20 enjoyed the subject matter of the stories: "*My favourite is about a fairy and the fairy has a really nice garden and it's got a picture on the front that changes to different picture in the story.*" (S4P20 at S4). S4P20 also mentioned that she liked the non-fiction books in particular; *"I like the crocodiles in the information books - it looks a little bit scary - it shows its teeth a bit" (S4P20 at S4).* The quality and motivation offered by the non-fiction books was also very appealing to S9P14 who commented *"I like the pictures, the colours make them look different. It's very cool because they tell you about what to do (non-fiction) sometimes when you race ponies, you get a rosette and it's in the book to look at. The photos are good and the stories are good; they make me happy.*" (S9P14 at S9)

The finding that even those children who reported a dislike of reading (**4 of 29; 13.79%**) went on to rate Bug Club guided reading materials positively and described them with enthusiasm strengthens the Phase 1 conclusion that Bug Club materials can make a useful contribution to school strategies to overcome generally poor attitudes to reading.

*Phonics and Grammar strands*

Child responses to evaluate the Phonics Bug Spelling and Grammar Bug strands were less clear. Y1 Children focused their evaluations on the guided reading texts (Bug Club), very few mentioning Phonics Bug materials. No children responded that they used Spelling and Grammar Bug materials. This links with teacher reports of a decline in usage of both the phonics and grammar strands. This decline appeared to be founded on two things (i) teacher perceptions of quality and usefulness and (ii) child response to Phonics Bug. For example, S1P20 did not enjoy the Phonics Bug books saying *"I don't like spelling out",* adding that she doesn't find it exciting. When asked if she liked Phonics Bug, she responded "*No! It's so boring!*" (S1P20 at S1). Responses from teachers who no longer used the Phonics Bug element often used examples of child perception like S1P20's as a rationale for ceasing to implement

The case schools provided further evidence of a decline in motivation for and usage of the Phonics Bug element of Bug Club. For Phonics Bug, data indicated that the decline was often related to teachers' perceptions of the needs of the children or the practices of the school already implemented. For example, the Y1 teacher in S9 pointed out that they used Read Write Inc as their phonics teaching programme, and that Phonics Bug did not follow the same sequence for introducing the phonemes. Of the six schools, three positively evaluated it and talked of continued usage, whilst three negatively evaluated it and had stopped using it.

Positive perceptions involve impact on attainment and quick access to support for usage. In S1 both teachers reported that they used the phonics materials included in Bug Club. Their classes were set by ability for phonics lessons: *"The phonics part has had a good impact on phonics attainment but it is difficult to say because of the cohort ability"* Y1 teacher.

At S7, teachers perceived that Phonics Bug had an impact on children's attainment; *"because we've also used the Phonics Bug, that has an impact and using the spelling and grammar with Key Stage 2 which we have as well. We've ended up purchasing the other bits. There's definitely been an improvement in attainment as I've said about reading ages and we've found that our Pupil Premium children are performing brilliantly and the resources have played a big part of that. They are getting the teaching to support their reading and we've seen an increase in attainment in every class in the school."* (S7T1). *"It's a really good package isn't it? You've got the Bug Club, the online stuff, all of the activities, your phonics things"* (S7T3 at S7).

Teachers in S6 focused on the support for teaching that Phonics Bug provides: *"Anyone who struggles with teaching phonics it is great for ... It is very easy to use and pick up so it saves on planning time and you don't have to look quite so hard for ideas. It means all teachers old and new are doing similar things with phonics and reading"* (S6T2 at S6).

However, **three** schools of the **six** case schools did not positively evaluate the phonics materials and some had ceased implementing them. In S4, the Literacy Coordinator reported *"Our staff don't use the Phonics Bug"* (S4T2 at S4*)*. Comments referred to limited value and poor programme design; *"I don't think the phonics online is very good - it's very dry, very stilted - clunky. Games - too many sounds in a game - it's not precise*

*enough. Teachers plan their own stuff ... I don't think you can follow it…... it's is a big outlay, a big commitment and I don't think the phonics and the grammar are worth it"* (S4T2 at S4)

S3 also have diminished usage frequency of the phonics materials, considering it poorer practice than other aspects of Bug Club materials; *"My only qualification [of positive response] would be with the Phonics Bug - I can't say that is value for money"* (S3T2).

*"I don't think that necessarily it [referring to child progress] is because of all the Bug Club content, Phonics Bug content though because all of the Phonics Bug content is by far and away the worst - it just isn't good pedagogy or good phonics practice. So I would say there is a change but I wouldn't attribute that change to Bug Club."* (S3T2). This opinion was supported by other staff in the school: *"Bug Club phonics is a bit slow for them* [referring to the children] (S3T4 at S3)

S9 did not implement the phonics materials at all, considering that another programme was more effective; *"We use Read Write Inc so we do not follow the Phonics Bug, but we do use the games for reinforcement" (S9T3).* Since both Bug Club phonics materials and DFE point to the importance of not combining phonics programmes since they adopt different teaching sequences, this usage has ignored expert advice, and introducing Phonics Bug games may be to the detriment of child attainment in this school.

Conversely, whilst teachers were beginning to decrease the frequency of implementation of Phonics Bug, they were beginning to use Grammar Bug more selectively. Whilst still used less that Bug Club print readers and the ORW, teachers were becoming more aware of the new curriculum requirements and were noticing that Grammar Bug had potential for helping teachers new to teaching the subject: *'It is nice for teacher confidence because it has the grammar aspects as well and backs up what we're doing now. It reinforces what we do and it has the whole package'* (S6T2). S7 school had introduced Grammar Bug into Key Stage 2 classes in Phase 3 of the project. The above goes some way to explain why children were less aware of Grammar Bug as an activity and an entity in its own right, as it was used more as a self-teaching support tool for teachers.

*Online Reading World*

As previously reported, **18 of 29** Y1 children (**60.26%**) reported that they used the ORW in school. All but **3** of those children (**10.52%)** stated that they like going on the ORW. The evaluation topics were similar to Phase 1 findings, where children referred to the motivation that being linked to a reward system brings.

S6P18, from S6 said "*the 'button that talks' is good. I really like to get the coins and you can play games on them. The quizzes are fun when you have to join the dots.*"

Not every class was given access to the ORW in school.  In some schools, some of the classes used it, but others did not.  For example, In S4, S4P21 reported that "*only S4T3 class do the iPads.*" S4P21 was not concerned that he did not get that opportunity in school saying "*My best friend did my password - we read one book and then we got fed up and went to the playhouse. S4T3 tells us to do it at home, but I don't.  I think the silly bugs are annoying.  It makes me want to stop reading.*" (S4P21).

To explore engagement with ORW more deeply, Y1 children (relatively new to Bug Club at this point) were asked whether they liked specific aspects of ORW in order to find out whether dislike or disinterest of the ORW was related to any particular aspect of the experience.

| Aspect of ORW N=29 Y1 children | Of those experienced | | Not experienced N=29 Y1 children |
|---|---|---|---|
| | **Like** | **Don't like** | |
| *Quizzes* N=27 Y1 children | 25 (92.6%) | 2 (7.4%) | 2 of 29 (6.9%) |
| *Rewards* N=19 Y1 children | 18 (94.7%) | 1 (5.3%) | 10 of 29 (34.5%) |
| *Avatars* N=27 Y1 children | 26 (96.3%) | 1 (3.7%) | 2 of 29 (6.9%) |

*Table 7: Y1 child perception of aspects of ORW*

Almost all children liked the quizzes, the rewards and the avatars. The responses expressing dissatisfaction were related to the frustrations they had experienced with the

functionality. S6P19 explained that the ORW is "*annoying because the coins don't work for me*".

**2 of 29 (6.9%)** Y1 children in the six case study schools said that they had never experienced the ORW in school and teachers' comments would seem to support the notion that in some classes, teachers had not used the ORW at all, despite being given access to it as part of the research project.  However, an even greater proportion, some **10 of 29** (**34.5%**) Y1 children, reported that they had not experienced 'spending' the coins they earned.  The sample size is very small and therefore this finding cannot be generalised beyond the current participants.  The reward system is a major part of the design of the online platform and is intended to motivate children to want to read at home on materials matched to their reading attainment. It is therefore unsurprising that reported motivation for reading amongst Y1 children during Phase 3 is no greater than Y1 children during Phase 1 (see above) since a proportion of Y1 children interviewed had not had access to and experience of the rewards system.

**Summary of Section Findings**

- At Phase 3, most Y1 children report that they enjoy reading (25 of 29).  The same number of children think that they are good or very good at reading.  This is broadly the same as the proportion of Y1 children reporting to enjoy reading and successful at it as seen in Phase 1 findings.  The additional 12 months of Bug Club implementation would appear to have maintained but not improved the success with which schools create enjoyment of reading in Y1.
- The use of comics has risen from 46.87% in Phase 1 to 81.25% in Phase 3.
- All 29 Y1 children read at home, 28 of them indicating that they had read within the last week.  This represents a slight increase on Phase 1 findings.
- 28 of 29 Y1 children enjoy reading Bug Club print books for guided reading.
- The numbers of children accessing ORW at home have fallen from around nine out of 10 to around 6 out of 10.
- ORW usage seems to rise in the initial months of Bug Club implementation only to fall as the implementation becomes more long standing, demonstrating that motivation is not sustained.  Home usage is enabled by teacher and parent motivation and despite lower usage Y1 children report that they enjoy ORW.

- Avatars were the most highly rated of ORW aspects, with 26 of 27 children who had experienced ORW stating that the avatars contributed to their enjoyment of reading on the ORW.
- One in 10 Y1 children interviewed reported that they had not experienced ORW and almost one third of Y1 children reported that they had not experienced being able to spend the coins as rewards.

(ii)    Evidence for Persistence

Persistence refers to motivation being sustained over a period of time and therefore this section draws on data from Y2 children only.  54 Y2 children from the six case study schools were interviewed, 25 males and 29 females.  The children were interviewed visits to the six case study schools selected for Phase 3. These children had been interviewed previously during Phase 1 (at that time 82 Y1 children in total across 10 schools had been interviewed). Now in Y2, 54 children across the six case study schools for Phase 3 were approached to be interviewed again to explore motivation some 12 months later. Children were asked to rate their perceptions of reading attainment and enjoyment in order to explore whether positive attitudes towards reading were sustained from the previous year.

Continued enjoyment of reading

**39 of 54 (72.22%)** of Y2 children interviewed said that they enjoyed reading. Whilst this is slightly lower than the **86.1%** of Y1 children interviewed who reported to enjoy reading (really like reading or like reading), the proportion of Y2 children reporting to not like reading at Phase 3 is about half that seen in Phase 1 (**5.35%** in Phase 3 as opposed to **11%** in Phase 1).  This group of Y2 children will have been using Bug Club for around 18 months and a finding at Phase 1 was that most of these children had regular experience of the ORW. The marked increase in self-reported enjoyment may indicate that the particular reading experiences for this group of children, both at home and at school, has increased their enjoyment of reading. Added to this, Y2 children will have benefitted from the almost universal implementation of the ORW and this may have had an impact on their enjoyment of reading more generally.

Reading self-concept after 18 months of Bug Club

**43 of 54 (almost 80%)** of Y2 children interviewed felt that they were either good or very good at reading. The proportion of Y2 children thinking that they are not good at reading has risen from almost **9%** in Phase 1 to just over **14% (8 of 54 children)** in Phase 3. The proportion of Y2 children(**almost 80%**) perceiving themselves as good or really good at reading is a little lower than the **86%** of Y1 children who considered themselves really good or good at reading.  This slight difference is to be expected as Y2 children may develop a more accurate self-evaluation of their performance in reading as they mature.

Reading Frequency after 18 months of Bug Club

After around 18 months of Bug Club implementation, **50 of 54** (**92.59%**) Y2 children reported that they had read a book at home within the last week. This is slightly lower than the Y1 child sample drawn from the same schools (**96.5%).**

Table 8 below shows a decline in the number of children reporting that they read at home regularly (every day or a few times a week) between Phase 1 (early in the Bug Club implementation) and Phase 3 (some 18 months into the Bug Club implementation).  It should be noted that the sample size accessed at Phase 3 is less than half the size. However, the decline does link with teacher and parent reports of home reading frequency and aligns with the interpretation of the initial increase and subsequent decline of reported online reading at home seen at A3 between the schools starting Bug Club in September 2015 and those starting Bug Club in January 2015 (see Figure 4).

| *Reported frequency* | *Every day/ Almost every day* | *2-3 times a week/a few times a week* | *1 day a week* | *Never/almost never* |
|---|---|---|---|---|
| *Phase 1 (Jan – July 2015) N=160* | 86 53.75% | 40 25% | 24 15% | 10 6.25% |
| *Phase 3 (Jan – July 2016) N=54* | 24 44.44% | 12 22.22% | 16 29.63% | 2 3.71% |

*Table 8: Reported reading frequency at Phases 1 and 3 in the Bug Club implementation*

Exploring intensity of motivation gives an opportunity to consider whether the Bug Club materials impacted on motivation enough to render children sufficiently motivated to seek out further reading experiences following a sustained period of time using Bug Club. Children in Y2 provide the context for exploring intensity of motivation. 54 Y2 children were asked to rate how much they enjoyed the range of materials from Bug Club and whether their enjoyment had increased, decreased or stayed the same.

*Bug Club guided readers*

**100%** of Y2 children responded that they had liked Bug Club when they were in Y1 (during Phase 1 of the study). Now in Phase 3, **51 of 54** (**94.44%)** of Y2 children indicated that they still liked Bug Club readers. The very small proportion of children indicating that they did not like Bug Club readers fell into extremes of attainment; two children indicated that they no longer felt motivated by the Bug Club readers since they did not offer the challenge they now sought. They preferred to read 'real' books and now perceived Bug Club readers as too easy or too babyish. S4P16 gave a response that was typical of the responses that indicated children did not enjoy the Bug Club guided reading books. "*I'm seven now, so I'm not that into them, they don't have books that are like the books I read, with several hundred pages.*"

The three children who said they did not like the Bug Club guided reading books were either mature readers for their age or clearly did not enjoy reading generally. For example, one of these three children responded to every evaluation task negatively and also responded negatively to measures of self-perception and enjoyment. Two children responded that they did not like Bug Club books now because they would rather read their novels or chapter books. But for the vast majority, Bug Club readers continued to support persistence with reading since the books were found by the children to be enjoyable, entertaining and age-appropriate.

The non-fiction materials were frequently singled out by the children as offering particularly motivating contexts for reading. S7P8 reflected on why: *"I like the non-fiction ones because it makes you learn things…* [looking at a book on astronauts and space to demonstrate her points] *You go home and someone says 'what does the rocket man count from?' and I can say, '10, 9, 8, 6, 5, 4, 3, 2, 1'."*

Other responses offer less specific evaluation, but indicate that children find reading Bug Club texts enjoyable*; "These books have very good words and very good pictures. I can solve the words." (S9P15).*

Y2 children were able to indicate that it was the same book characteristics that attracted them to the books as it had been whilst they were in Y1. For example, S7P5 commented that she liked to learn from the non-fiction books and that she felt successful as she was able to see her own progress; *"I like them more because they tell you things you don't really know. And when you go to a different colour you learn even more." S7P7* used a Star Wars themed book to demonstrate how much he enjoyed being able to read about popular culture and characters from TV and film in his reading: *"I like them because Star Wars is my favourite! I want to go to the Jedi academy!"* These views were echoed by S9P16 school when he said *"They are exciting and I can imagine myself in the world of superheroes - I am in the book."*

These comments are examples of how Bug Club guided reading books support persistence of motivation for reading. Texts have become more challenging, but the children' keenness to read from Bug Club facilitates their positive attitudes towards reading.

Children were then asked whether they liked the Bug Club guided reading books the same amount, more or less than they did when in Y1. This question was to gauge whether the materials intensified motivation.

**35 of 54 (64.81%)** Y2 children responded that they felt they enjoyed Bug Club equally. S1P9 said *"I just like them. You can learn from them really well".* This group of responses indicated that positive attitudes to reading had been sustained by Bug Club guided reading books. Children still felt motivated to read and the pleasure they got from reading supported persistence even though the materials were now of greater challenge.

**17 of 54 Y2 children (31.48%)** said that they enjoyed Bug Club guided reading books more than they did in Y1. S7P8 told how she enjoyed having more challenging reading material; "*I like them more now because in Year 1 they gave you easy books and now they give you hard books".* She clearly wanted to learn more and linked her love of reading to Bug Club readers: "*I like reading them more! Last night my mummy said you could read a little bit* (of the Bug Club reader sent home) *but I said can I read more*" (S7P8) The level of difficulty was not demotivating. S1P6 enthused *"as you read them more you just know them more and they get harder and the words get more exciting".* Their motivation for reading had intensified.

**2 of 54 Y2 children (3.7%)** said they enjoyed them less.   These children's comments related to level of difficulty. S4P16 said *"they are shorter than the books I read"*.  He still enjoyed reading, but his persistence was being supported by materials he perceived to be more appropriate to him. S7P6 also referred to level of difficulty, but for her the challenge she perceived in Bug Club readers was too great, saying *"they're harder now"*. This comment may not relate to the materials themselves as the book match is intended to be controlled by the teacher, but it does suggest that for struggling children, the qualities of the Bug Club guided reading books of themselves are not sufficient to overcome existing poor reading self-concept and to support persistence of motivation.

Findings indicate that for the majority of Y2 children, Bug Club guided reading books offered support for persistence with reading regardless of the increase in reading challenge.  For just under a third of these children, motivation would seem to have intensified.

*Phonics Bug*

**16 of 54 Y2 children (29.62%)** interviewed responded that they used Phonics Bug books in their classroom.  Responses to evaluate the materials were not as developed as when children were shown the Bug Club guided reading books and whilst children had no negative comments, responses were typically just 'I like it'. As three of the schools were not using phonics materials consistently, this low reported usage by Y2 children would seem to be broadly accurate, since even in the three schools that did continue to implement the phonics materials, not every teacher chose to use it.

Children were found to be less engaged with Phonics Bug materials than other Bug Club materials during Phase 1 and this study replicates those findings.

The low usage of Phonics Bug reported by children links with teacher responses. Interviews with teachers of high reading gains classes show that just **10 of the 13** use Phonics Bug and of those 10, only six use it with all children, with the others seeing it as suitable only for those children experiencing difficulties learning to decode. Whilst six used the Teacher Support Materials, four of those did not use the activities escribed and adapted it considerably.

The evidence is that child responses are broadly accurate; most of the children in the case study schools did not use the Phonics Bug materials.  Those that did, did not find them as engaging and motivating as Bug Club readers.

Rationales for teachers choosing not to use Phonics Bug in their classrooms are explored later in this report (see Page 89).

*Spelling and Grammar materials*

None of the Y2 children interviewed could recall using Grammar Bug and nor could they provide evaluative comments.  Again here, this would seem to be accurate since teachers also reported very low usage.  Teachers' rationales for low usage are explored later in this report in the section on Teacher motivation.

*Online Reading World at home*

**37 of 54 Y2 children (68.51%)** interviewed in the six case study schools indicated that they currently accessed the ORW at home.  This is a lower rate of access provided by schools than seen during the schools' early engagement with Bug Club (**90% of 82 Y2 children** in Phase 1) and represents a decline from usage reported in Phase 1.

Children' comments demonstrated that both home and school factors have influenced this decline.

S4P14 elaborated on the situation, saying that he no longer used ORW at home: *"I did it in year 1 but we don't do it anymore - my mum borrows other people's books now, like stegosaurus from S4P19 in Year 4".* For some children, the decline in usage was due to parental choice.  S4P16 said "*it's my dad's decision - he gives me other things to read - he wants me to read long books.  He doesn't like me on computers and play stations."*

**37 of 54 Y2 children (68.51%)** reported that they did not use the ORW at home; when asked if they liked it, **31 of these 37** Y2 children (**83.78%),** including those who said they no longer used it, answered that they did.  The other just over **16%** of child responses were not to say they did not like ORW, but that they couldn't remember if they liked it or not as it was so long ago, or that they did not know and were unable to give an answer.

*Online Reading World at School*

The deciding factor in continued child usage in school is the clearly the class teacher. In all of the six case study schools, children in particular classes did not have access to the

ORW in school, whilst other classes in the same school did. These findings include both Y1 and Y2 children.

The proportion of Y2 children experiencing ORW in their classroom (**24 of 54** Y2 children; **44.44%**) is lower than found at Phase 1, when these same children were in Y1 (99 of 133 Y1 and Y2 children; **74.43%**)**.** The six case schools offered a much smaller participant pool than accessed at Phase 1, and therefore the higher reported incidence of access to ORW in school does not provide evidence of a different practice in Phases 1 and 3 of the Bug Club implementation in general, but just in these six schools. However, when data are triangulated with usage data from the learning platform and teacher responses from the 21 teachers from schools across 'new' and 'experienced' Bug Club schools, it is clear that in most schools, ORW access has declined.

The six case study schools were sampled as they had features of high motivation for the Bug Club materials and had indicated plans to develop and increase implementation, particularly for home-school links using the ORW. A clear finding is that in these schools, this is not what happened as usage declined in all product areas except the Bug Club guided reading books. The decrease in the number of children using ORW at home is particularly marked, dropping from **90% of 82 Y2 children** in Phase 1 to **37 of 54 Y2 children (68.51%)** in Phase 3. This decrease is also seen in the use of Phonics Bug, Grammar and Spelling Bug materials and Phonics Online lessons for interactive whiteboards. Sections later in this report offer the teachers' perception of changes in Bug Club implementation and their rationales for continuing to implement or ceasing to implement ORW in their classroom practice (see page 89).

*The motivating impact of ORW*

**47 of 54 Y2 children (83.92%**) who had access to ORW either at home or at school responded that they continued to feel motivated by it. Their comments demonstrate that after high levels of engagement seen in Phase 1, motivation continues.

S9P17 talks about how she enjoyed the functionality of the ORW; "*you don't have to make your arms ache - you can look through quickly. You can look through quickly and press arrows."* S6P4 was highly motivated to use the ORW as he had access to many books whenever he wanted to read; "*They give you loads and loads of books to read*"

S7P8 talked about how she wanted to use ORW in order to get coins. The last part of her comment is interesting and suggests that it is the game-like appeal that is motivating

rather than the reading itself; "*The more coins you get the more stickers you get… it makes it feel like you want to read another one to get another coin.*"

All children' comments referred to either some physical aspect of the reading on ORW, to the easy access to books or to the role of the rewards system offered by ORW. Whilst it is true to say that almost all of the children indicated that they liked the ORW, the content of the comments does suggest that for many it remains the game-like functionality that is valued rather than an opportunity to read more or read more exciting materials. Typical of these responses was S7P5; when asked if ORW changed how she felt about her reading, she responded "*Yes – it's the games. I've got four games now… you can drive the car*".

**33 of 54 Y2 children (61.11%)** indicated that they felt ORW made them want to read. **4 of 54 Y2 children (7.4%)** indicated that going on ORW was not motivating and did not help them want to read, **3 of 54 Y2 children (5.55%)** said that it did not always motivate them, but that it depended on their mood.  The remaining children either said they did not know if ORW made them enjoy reading or they did not provide an answer.

A small number of the comments on ORW were uttered in the past tense and suggested that the children were referring to how they had felt during Y1 not necessarily now, some 12 months later.  This interpretation is supported by the number of children that reported they liked it less.  These comments to compare their preferences at two points in time focused on how they felt that now they were a more able reader and wanted to read hard copy books or different sorts of books from those Bug Club offered them. S4P22 reflected "*it's quite good, but it's not amazing - I like reading proper books now and longer ones*".  His response is typical of the 7.4% of Y2 children who said they did not feel motivated by ORW any longer.

41 of the 54 children provided a response to questions asking them to compare their enjoyment at two different points; last year when they were in Y1 and now, when they were in Y2.  Just under two-thirds of Y2 children (**25 of 41 Y2** children; **60.97%)** rated their enjoyment as the same as last year.  Responses indicated that enjoyment had increased for **31.70%, some 13 of the 41** responses. **9 of the 25 responses** (**36%)** indicating 'more', focused on the extrinsic rewards and gathering of coins that the ORW offered them rather than the reading experiences it affords. **4 of the 25 responses (16%)** were focused on being able to read more.  The remaining **12 of the 25** responses indicating greater enjoyment (**48%)** were focused on increased enjoyment resulting from being a better reader or getting older.

*The impact of quizzes on motivation*

**44 of 46** children who could recall the quizzes said that they enjoyed them.  Children enjoyed the fun element and receiving a 'well done' when they got the answer correct. All children stated that they had liked the quizzes last year too.  When asked whether their enjoyment had increased, decreased or stayed the same, **17 of the 46 Y2 children** able to recall using the quizzes **(36.95%)** responded that they did not know because they had not used them for a long time.  Teachers' comments reflect a conscious focus on different teaching foci during Phases 2 and 3 (for example, preparation for SATs).

The challenges to continued implementation and fidelity presented by statutory assessment are reported in more detail on page 92.

Of the 39 responses gained from children who responded comparing enjoyment of the quizzes over time, **23 of the 39 Y2 children (58.97%)** indicated that they liked them the same amount. **16 of the 39 Y2 children (41.02%)** reported that they enjoyed them more; they reported that motivation for the quizzes had intensified.

All of the 39 Y2 children who responded to compare enjoyment over time said that they enjoyed the quizzes equally or more than the previous year.   Responses showed children saying they were 'happy', 'excited' and 'pleased' whilst doing the quizzes. Children rated their enjoyment as linked to challenge and described seeking out the quizzes so they could have something interesting and exciting to do.  S6P14 response showed evidence of persistence inspired by the quizzes; "*Sometimes - if it's a hard question I have to think more. When you get one right it tells you, you did it good and I like that". S6P13* also talked about how he found it motivating to persist with his reading to get answers to the quizzes correct. He liked to get the answers right so would go back and read the page again if he got a question wrong. Some responses indicated that children did not like getting the answers wrong and found that to be demotivating.  S9P18 said "*if I am wrong - then I feel a bit sad, it might make me angry*".  These feelings of failure leading to annoyance place a responsibility on the teacher to ensure that the comprehension challenge is appropriate for each child or motivation for the ORW is diminished.  There is no evidence that this risks demotivation for reading more generally, but it does mean that some children become at risk of reducing reading mileage experiences possible at home.

Others refer to not liking the experience of completing quizzes when it becomes too hard. S6P12 said; "*sometimes I don't like them. Sometimes they are hard and boring to do.*" This links to parent perceptions where some parents mentioned how their children did not like to get answers wrong and how possible demotivation had to be carefully

managed by them. S1P6 talked about how her mum sometimes helped with the quizzes if she found them too hard.  However, in the majority of cases the child either responded that they were not adversely affected by getting a question wrong, or were not sufficiently aware of this to provide an answer at all.

All 54 Y2 children were asked if the quizzes changed the way they felt about reading the book, making them want to read more.  A small number of children (**8 of 54**; **14.81%**) reported that the quizzes contributed to the persistence for reading and did increase their enjoyment of reading books online.  **2 of 54 Y2 children (3.7%)** said sometimes they felt more motivated to read because of the quiz, **5 of 54 Y2 children (9.25%)** indicated that it made no difference at all.  **37 of 54 children** (**68.51%**) either did not know or seemed unable to respond to the question.


*The impact of rewards on motivation*

All 54 children provided responses on their enjoyment of rewards as part of the quizzes in the ORW.  **43 of 54** Y2 **children (79.62)** enjoyed the rewards system but for some children, this extrinsic enjoyment plateaued or even diminished.  For **6 Y2 children (11.11%),** receiving a reward in the form of a coin was not the main motivation to read; this was a logical and positive outcome and did not mean that these children never found the rewards un-motivating or demotivating. The main reason for the change in child perception was that they became bored once the novelty had worn off.

**27 of 54 Y2 children (50%)** reported that the enjoyment provided by rewards had remained the same.  For **10 of 54 Y2 children** (**18.51%)**, the enjoyment provided by the rewards had increased over time, offering more support for motivation now than the previous year when they had been in Y1. 10 of 54 Y2 children (**18.51%**) reported that they no longer used ORW at all, at either home or school.

All children who said they liked rewards to the same degree or more reported that they liked the same things. S6P20 and S6P21 reported that they liked spending their rewards in the tree house and had always found this enjoyable.

There is limited evidence that the rewards were linked to greater motivation and enjoyment of reading more broadly.  A small proportion of children (**7 of 54 Y2 children; 16.66%)** could respond to the questions about how rewards affected how they felt about reading and rereading the book.  They were asked '*Does it make you want to read more when you have a reward?*'  Since this was a marked decrease in response rate from the same question when applied to Bug Club readers, ORW and quizzes, it suggests that for

most of the children, winning a coin and being motivated to read were not obviously connected. Of the available responses, most reported that being given rewards did not affect their motivation to read;  S1P6 for example, responded that no, she just wanted to get better at reading and having rewards  did not make her more inclined to read or make her enjoy it more. Just 1 child responded that yes she did feel that having rewards changed the way she felt about reading, S1P2 said that the rewards made her want to finish the book quickly so that she could move on to decide what to put in her treehouse. This may suggest that the rewards were making the reading less attractive and the reading was finished as quickly as possible in order to spend the coins.  Whilst the response of one child cannot make this conclusion, it does link to the many comments about the ORW, the rewards in particular being viewed as a game rather than a reading experience by many of the children interviewed.

*The impact of Avatars on motivation*

All 54 Y2 children were able to respond to questions about their opinion of avatars on the ORW.  **52 of 54 Y2 children (96.29%)** said that they had enjoyed the avatars the previous year whilst in Y1, and that they liked the same aspects.  The reasons given focused on the colourful nature and the way that the avatars signalled some interaction between them and the platform.

A high proportion reported that they still enjoyed seeing the avatars and that they contributed to their motivation for using the ORW.  **43 of 54 Y2 children** (**79.62%)** responded positively; some responses mentioned the interactivity the avatars bring to the ORW; for example, S6P4 mentioned that he liked the noises and the sounds. Many responses thought that the avatars brought humour to the experience; S7P7 said "*they're funny and do funny movements with their eyes when you're reading a book*".  The responses all indicated that the presence of the avatars was an essential part of the ORW identity.  As S9P18 put it, *"it couldn't be Bug Club if there were no bugs."*

**2 of 54 Y2 children (3.7 %)** of children felt that the impact of the avatars had increased, but the majority, some 37 of 54 Y2 children (**68.51%**) felt that they had the same enjoyment and motivation for avatars.  Some comments related to wanting a more grown up looking platform and an irritation that the functionality did not offer changes in the way it works – games are the same, coins work in the same way, avatars are perceived by a few as babyish.

S1P3 said "*they're just ok*" and Maisie S7P8 said that whilst she did like the avatars, she wasn't particularly keen. She is keen on reading the book and doing the quizzes and anything else is getting in the way of what she really wants to do; "*I don't really like when he's dancing because it takes too much time.*"

Comments of this type were not observed in this same group of children when they were in Y1 (during Phase 1 of the study). Such comments were however seen amongst Y2 children during Phase 1. This suggests that as children get older, they begin to see the visual style of the ORW as more related to the materials they had in Reception and Y1 and consider them increasingly babyish. This was evident when the resources were new to the school in Phase 1, so it would seem it is not related to getting used to it or fed up with it, but to maturation and wanting a more adult visual design.

The interpretation above is supported by the finding that just **4 of 54 Y2 children** (**7.4%)** of children felt that the avatars made them more inclined to read on the ORW. It seems that some Y2 children begin to feel that avatars are inhibiting their reading experiences on ORW. These perceptions may increase as children get older and move into Y3. This finding aligns with teacher perceptions of the impact of Bug Club on child motivation waning in Y2 more generally (see Table 9 below), where teachers in the six case schools responded to questions about what aspects of reading ORW had an impact on and whether children liked ORW the same, less or more. Table 9 below shows that teacher perceptions of increased motivation and persistence of motivation was slightly more frequently linked to Y1 children, although teacher comments did not relate to the avatars specifically. To build persistence of motivation for the ORW may involve developing an age-related design and functionality capacity that develops in line with the maturity of the year-group at which it is aimed.

| | N=10 | | |
| --- | --- | --- | --- |
| Total positive responses | | Y1 | Y2 |
| Impact on motivation | 10 | 5 | 5 |
| Impact on engagement | 10 | 5 | 5 |
| Impact on reading mileage | 7 | 4 | 3 |

| | | | |
|---|---|---|---|
| Impact on reading attainment | 6 | 3 | 3 |

*Table 9: Teacher Perception of ORW impact on children*

| | More | Less | Same |
|---|---|---|---|
| **Motivation –more/less/same** | *4* | *0* | *4* |
| Year 1 | *2* | *0* | *2* |
| Year 2 | *2* | *0* | *2* |
| **Engagement –more/less/same** | *3* | *0* | *5* |
| Year 1 | *2* | *0* | *2* |
| Year 2 | *1* | *0* | *3* |

<u>*Table 10: Teacher Perception of motivation at Phase 1 and Phase 3 with ORW, disaggregated for Y1 and Y2*</u>

*Child perceptions of motivational aspects of Bug Club*

Y2 children were asked if they would recommend Bug Club resources to other children. The purpose of this question was to create a context for them to reflect on what in particular they felt motivating about the resource. Children were asked initially if they would recommend Bug Club to a child in another school. If they gave a positive response, they were then asked what they would say to help the other child want to use the resource.

*Bug Club guided readers*

100% of Y2 children responded that they would recommend Bug Club guided reading books. Some comments focus on specific books motivating to read of themselves. S7P1 recommended a specific book rather than the scheme as a whole; "*read Goldilocks and the three bears! Why? Because it's a proper good book! I like it when she does* that [points at picture]… *she snores!*"

S7P4 also related his enjoyment to specific content; *"sometimes they have good ones, like Ben 10"*

Other comments relate their recommendation of the BUG CLUB guided reading books to the content.  S6P14 was happy with the content in general; *"They are really good and you can look at the pictures but learn stuff too"*

S6P4 recommended the non-fiction books; *"sometimes there are books that you really want to know about - the information ones are good"*

Other children recommended the Bug Club guided reading books by linking them to reading for pleasure more generally.  S7P6 communicated her enjoyment in her recommendation; "*They're fun, you can learn things. I would say you should read these books tonight – you have to give them back to me in the morning... it's 'cause they're mine!"*

Some recommendations approach the task of convincing others that they too will get a lot out of reading Bug Club guided reading books.  S1P6 was clear that for her, reading is very important and Bug Club guided reading books are linked to the goal of growing up well; *"Reading these books is good for you. You will enjoy it! Some people don't like to read because they think it's really boring but you can get information on what to do with your life."*

Recommendations demonstrated that Y2 children were able to isolate more than content-specific reasons for recommending the use of Bug Club guided reading books.


*Online Reading World*

All of the 54 Y2 children said that they would recommend ORW to another child. Recommendations focused on either access to books, the game-like activity or the functionality of ORW.

Five recommendations indicated that the volume of reading offered by access to ORW is motivational and enjoyable. S6P6 said *"There are lots of books to read - you can have one and another one and another one"*.  S6P13 also recommended ease of access and choice; *"You can pick a book you like at home"*. S1P3 also commented on the access to many books; *"If you go onto it you get a new book and you get another one and another one - it's really easy."*

Four responses indicated that functionality somehow makes the reading process easier and it is that which acts as motivational. S6P4 chose to recommend the 'Read to me' function; "*it reads to me when you don't know what the word is – it's fun too.*" S9P17 also recommended an aspect of the functionality; "*sometimes when you are little, your arms are always hurting - on the iPad that won't happen.*"

However, most of the recommendations describe how the game-like functionality of the ORW are motivational, and focus on those rather than the reading opportunities itself created by the ORW.  S6P16 said "*you can get games and the treehouse and they are fun.*" S7P3 focuses on the rewards aspect of the ORW "*You can get lots of money and go on the treehouse.*"

This finding may not indicate that the gaming aspect is the only thing that is appealing, as S7P5 recommendation indicated. She had already recommended ORW to her brother, she reported; "*my brother doesn't have it and I showed it to him and he really liked it because it has games and money!*" She later returned to the topic independently and said that she would recommend the games but also mentioned reading the books too and linked it back to going up a book colour (i.e. band) and getting better at reading; "*It's because of the books - they're really good because they tell you more than you already think...you can get better and it gets easier because you can know words. Then it gets harder and harder. I got stuck on Orange but then I went to Turquoise.*[11]"  However, for most of the children, the gaming was the first and only response they gave.

**51 of 54 Y2** children (94.4%) across the six case study schools said they would recommend the quizzes to a child in another school.

S6P4 linked his recommendation to getting access to more books; "*If you go onto it you get a new book and you get another one and another one - it's really easy*".  S6P4 enjoyed the feeling of progress and success provided by successful completion of the quizzes. "*They're good to answer. And good when you get them right.*"

S7P7 also centred his recommendation on the affirmation of progress provided by the quizzes; "*it means you are doing good when you get them right.*"

The recommendations provided showed that Y2 children in the six case study schools remained very positive about Bug Club as a whole after around 18 months of usage. Bug

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[11] Orange and Turquoise are adjacent colour bands in the gradient of challenge for guided reading texts.  See Which Book and Why (Bodman and Franklin, 2014)

Club guided reading books received **100%** of positive recommendations from the 54 Y2 children and **100%** positive evaluations in both Y1 and Y2 children.

*Child evaluations in Y1 and Y2*

**100%** of responses from Y2 children positively recommended the ORW. However, not all aspects of the ORW were equally enjoyed. The table below presents evaluations of the ORW and shows that avatars receive the lowest positive evaluation overall, yet they are the most popular with Y1 children. This supports the interpretation that Y2 children 'grow out of' the visual design. Quizzes are more popular with Y2 than Y1. Rewards are less popular with Y2 children than with Y1 children. This echoes child comments reported above that demonstrate some children no longer relating extrinsic rewards to the enjoyment of reading as they mature as readers. This would not appear to have occurred for all Y2 children during Phase 3, when most Y2 children would be seven or almost seven years of age. This interpretation is provided by the fact that the positive evaluation for rewards is high. However, some Y2 child comments qualified their evaluation to say they did not choose to collect and spend their rewards anymore because they were too grown up but they still remembered liking the rewards when they were in Y1.

|  | **Quizzes** *average score out of 10* | **Avatars** *average score out of 10* | **Rewards** *average score out of 10* |
|---|---|---|---|
| **Y1** | 92.59 | 96.29 | 94.73 |
| **Y2** | 96.65 | 79.62 | 79.62 |
| **Total** | **94.62** | **87.95** | **87.17** |

Table 11: Positive child evaluations of three aspects of the Online Reading World

All 10 class teachers in the six case study schools interviewed agreed that in the first year of the project Bug Club had made a positive difference to child motivation. When asked if that motivation had been maintained in the second year, 8 out of 10[12] teachers felt it had either increased or remained the same: *The children have more desire to read now and are happy to talk about reading'* S1T1. This also related to reading mileage *'we*

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[12] The other two teachers felt unable to comment

*can now see there are more children who are enjoying reading. They want to be able to access things on their iPads and books are another element to that. So we feel the children are reading far more widely, without a shadow of a doubt'* (S7T1), although six out of 10 case study school teachers also reported that levels of child reading mileage had remained the same.

Eight of the 10 teachers from the six case study schools expressed the opinion that child engagement had either remained the same or increased in the second year of the project: *'The children are more engaged now because they're improving and getting more independent'* (S6T3). This finding conflicted with the interview data which indicated a lessening of usage in some respects, but data seemed to indicate that teachers were becoming more selective and adaptable in what they were selecting to use and why: '*I'm using it less, I'm less engaged but that's because that's meeting the needs of my class* [Y2] *- I wouldn't say the* [children's] *engagement is any less, it's probably around the same'* (S3T2).

Teachers generally felt that the materials were motivating for all children: *'there is no discernible difference in motivation across different groups'* (S9T3); *'I think it works best for the middle readers because they make good progress and have something to aspire to'* (S1T3) *'The more able children have flourished because there's so many options and books to have'.* (S6T2). The main exception was the support offered for the lower ability children. Several teachers pointed out that the materials needed adapting, or that more 1-1 support was required: '*The lower ability children can lose their interest - they need small group or even 1-1 support. Timetable and routine enables this'* (S9T3).

The positive engagement of boys remained a feature in the second year of the project: *It's more important for boys to have things that really inspire them to read - they tend not to be as conscientious as girls: It's stereotyping but it does happen. They need to be inspired by their reading - they won't do it for the sake of it whereas girls will just to please* (S4T1).  Schools also mentioned the role of the comics as motivational for boys: *'I mentioned boys earlier because that has been the noticeable change. There is more content they are interested in'* (S1T2).

Teachers rating of children's response to the ORW remained positive. All of the nine teachers still using ORW (of 10 teachers in the six case schools) said that children liked the quizzes and rewards, with 8 of these saying that this was the same or more in the

second year. In interviews, teachers noted that motivation of the coins and rewards was lessening in second year: *'At the start it was more to do with coins but as we've progressed it has become more about reading for pleasure'* (S6T2); *'Less of an excitement - it's not new to them anymore'* (S4T3); *'they don't connect it with reading - they see it as a different activity'* (S4T5).

The one teacher who felt children were less positive about these aspects of the ORW explained: '*In Y2 they are too cool for that now. They don't see the need for the online platform - it's just reading a book. One of the problems I have with the Bug Club - children should not really need the rewards and the points. Extrinsic motivation is greater in Y1. Rewards don't really have educational value'* (S3T2).

***Summary of Section Findings***

- *Interviews with children, parents and teachers show that attitudes amongst Y2 children using Bug Club remain positive in the main. Bug Club would appear to have contributed to the halving of the proportion of Y2 children reporting to dislike reading and increasing the reported enjoyment to 9.5 out of 10.*
- *Almost eight out of 10 Y2 children report that they think they are good or very good at reading.*
- *Slightly fewer Y2 children than Y1 children in the same schools report that they read at home.*
- *Children, parents and teachers report that home use of ORW declined by almost 30% in the six schools forming the case for exploring continued motivation and usage.*
- *Y2 child comments show that Bug Club supports persistence of motivation for the majority.  Whilst there is some evidence that intensity of motivation heightens for a very small proportion of the children in Y2 after 12 months of using Bug Club guided reading books, this is not wide spread and consistently reported across the other resources, for which usage with Y2 children has declined.*
- *Three in 10 Y2 children report that they use Phonics Bug.  These reports are supported by the views of teachers who state that Phonics Bug is only useful in Y2 for those children who are experiencing difficulties learning how to decode.*
- *At seven out of 10, the proportion of Y2 children accessing ORW is around the same as that of Y1 children in the same schools.*

- *There is however less usage of ORW amongst the Y2 children than whilst they were in Y1, supporting the interpretation of a general reduction rather than a reduction by year group.*
- *Most Y2 children report that their motivation for ORW is the same, or in a small number higher although just over one in ten Y2 children report that they find it demotivating and would prefer to just read uninterrupted. As these comments were made by able readers, it is likely that this viewpoint will increase as the children get older and extrinsic rewards will become increasingly frustrating.*
- *Y2 children who felt that they liked ORW more were focused on getting coins and playing games rather than reading.*
- *Y2 children rated the quizzes most highly, with an average score of just over 9.4. Y1 children rated the avatars most highly.*

**Parent motivation for the Online Reading World**

At Phase 1, 41 parents across ten schools had been interviewed about home reading practices. They reported that they found that ORW was easily integrated with their existing home reading practices. Parents were impressed with the quality of the books. Parents reported that they felt more confident to support reading at home, with Quizzes and comprehension questions supporting their understanding of how to interact with print and comprehension. Though in general parents reported increased amounts of time reading at home, including ORW, some children remained reluctant readers after five to six months of Bug Club implementation. Thirty eight of 41(92.68%) parents reported that they accessed ORW at home during Phase 1.

At Phase 3, 28 parents across the six case study schools agreed to be interviewed. Ten were the parent of Y1 children, 14 the parents of Y2 children. The year group of the child was not recorded for 4 of the parents.

10 were the parents of male children, 18 parents of female children. Amongst this group there was one couple, one father and 25 mothers. Five of these parents were employed at the school in which their child attended.

| N = 28 | Male child | Female |
|---|---|---|
| **Parents of Y1 children** | 3 | 7 |

| | | |
|---|---|---|
| **Parents of Y2 children** | 6 | 8 |
| **Not recorded** | 1 | 3 |

*Table 12: Parent characteristics*

Parents were asked their perception of their child's reading attainment. **23 parents** (**82.14 %** of responses) indicated they thought their child was either very good or good at reading. None of the parents thought their child was poor or really poor at reading.

| 1<br><br>Really good at reading | 2<br><br>Good at reading | 3<br><br>Okay at reading | 4<br><br>Finding reading difficult | 5<br><br>Really bad at reading |
|---|---|---|---|---|
| 9 | 14 | 5 | 0 | 0 |

*Table 13: Parent Perception of their child's reading attainment*

The picture for parent perception of enjoyment was similar in that **23 of 28** parents reported that their children enjoyed or really enjoyed reading. **3 of the 28** parents interviewed perceived that their child did not enjoy reading to a greater or lesser extent.

| 1<br><br>Really enjoy reading | 2<br><br>Quite enjoys reading | 3<br><br>Doesn't mind reading | 4<br><br>Doesn't like reading | 5<br><br>Really doesn't like reading |
|---|---|---|---|---|
| 13 | 10 | 2 | 2 | 1 |

*Table 14: Enjoyment*

All parents said they received support for their child's reading development by the provision of materials to read at home.

**21 of 28** responses indicated that parents perceived reading attitude and enjoyment to be unchanged since their child had begun to have access to ORW. This included those children whose schools had ORW since January 2015, and some since January 2016. **7 of 28** parents felt that there has been a change in their child's reading attitudes. In

nearly all cases this was seen as an improvement, but for 1 child the parent perceived that reading attitude and enjoyment had decreased. (S4G4) "*I would say her enjoyment of reading has deteriorated – she was a little motivated initially, but now more of a chore. This is in general, not just in relation to going on the ORW. But her motivation to go on ORW to read was not maintained when the novelty wore off.*"

For other children, parents perceived that the initial motivation to use ORW had been maintained. S6G6 reported that ORW really got her excited in reading; "*so there's been a huge difference, now she's interested. To be honest we don't do it at home at all now, but I know she likes it when they do it at school - she talks about it.*" S9G1 reported that they used to lack confidence and worry about her reading - but since they have been able to use ORW at home, she is much more confident and really enjoys reading.

Amongst the **seven** parents that perceived an increase in reading enjoyment, **four parents** perceived that Bug Club had an influence on the continuation of enjoyment or an increased level of engagement. The remainder felt that the changes in attitude and habit would have occurred anyway and the change was not connected to ORW; reasons for improvement in attitude given by the parents included the teacher, maturity, home practices around reading. For example, S9G1 felt that the change was due to the child's relationship with the teacher, not ORW; *"The teacher is very encouraging with S9P19 and that has brought her confidence out".* S6G4 felt that the increase in enjoyment was due to an improvement in her son's reading attainment; *"he has become a better reader and likes to read with his friends more."*


However, one parent said that their child was still not happy to read a print book at home; there was an improvement of sorts as now they were less resistant to going on the ORW, but this had not been transferred to reading more generally. S9G6 said *"she still will not read a physical book to me - so Bug Club has been useful. Reading from a book has not changed at all, but since I've heard about the online reading world, the school tell me that she does read some Bug Club books in school now. She likes anything that's on a computer - a phone even - if she thinks it's a game she'll do it, but she won't read a physical book - at all. This hasn't changed.*" S9G6 went on to say *"it's because she doesn't know it's reading - she thinks it's a computer game."*

Parents of Y1 and Y2 children reported having a variety of tasks home from school – homework, hard copy books. This had not changed, but now in some cases they had ORW as well.

Parents talked about the different types of support that the school had offered for the use of ORW at home. S6G6 recalled how the school sent the children home with a password and login. S6G5 said *"there was a letter to guide us on how to use online. It might have helped to show the children how to use it at school first and then they could show the parents. But generally the parents were satisfied that they knew enough to use it at home".* S6G1; "*I'm not exactly sure how it works. My wife has been on there many times and she has taken little bits and topics or activities from it and made personal homework. We've drawn stuff from there organised it on a piece of paper with questions and answers etc. S6T2 gave support but once you get on there it is pretty straightforward and easy to follow."*

S1 was reported to take a different approach. The group of parents told how starting to use the ORW was made into quite a big thing by the staff at the school and parents were given passwords and information about how to access ORW at a meeting. They were also show the range of Bug Club materials. The parents reported that it was really the print books they were most impressed with, particularly the range of different types of books at each reading band.

When interviewed, parents perceived that levels and frequency of support and guidance offered by the school influenced the decrease in frequency of access and this support did not meet their needs. For example, the parents in S3, were generally dissatisfied with the amount of support offered at the point of initial engagement. S3G4Parent 4 reflected; "*We had a meeting, but there was no actual showing and help - as the school were showing us it kept freezing- so the teachers could explain it well, but it didn't work well - it was frustrating for them and we couldn't have a go*". S3G3Parent 3 added some thoughts about the access to support offered by the school; "the *parent session was at 3.30 – many parents couldn't go - and there was no opportunity to go at different times*". When sampling for this study, case study schools were identified because they exhibited high initial engagement and talked about plans to extend implementation, particularly home-to-school links. However, none of the parents interviewed had experienced further or follow-up support. Parents felt that the lack of ongoing support influenced the decrease in motivation to access ORW at home along with perceptions of a decrease in enjoyment by the children. Parent motivation created in the initial engagement did not persist into action and none of the six case study schools had increased or developed

home-school links.  This was reportedly due to teacher perceptions of parent opinion; S3T2 said '*We won't have as big a focus on using the on-line content because I don't think it's been received that warmly by the parents - not received in a negative way just neutral, ambivalent to it*' seeming to place the onus on the parents.

Not all parents reported that their children were enthusiastic about going on ORW initially. For example, Imam Anjum's parent (S6G6) reported how S6P19 was not enthusiastic about ORW at the beginning - wanted to get the rewards quickly and became frustrated. *"Slow, very slow, at the beginning, I had to encourage her. You have to read quite a lot to unlock a lot of stuff, so it's not very clear at the start. And I think there should be a section at the start that makes it clearer… it's not quite tempting for my children especially, [daughter] likes to get so many things in return if she does very little! Because it was a new thing, I had to encourage her more and say if you read one more word I will give you this"*

However, Parent 1 (S7G1) recalled how her daughter had been very enthusiastic initially and wanted to access it every day and enjoyed it; *"I think she liked the idea of being on a computer".* This high level of initial engagement and the association with computer games was the case for almost all parents who expressed a reflection (16 of 28 parents). This doesn't necessarily mean that the remaining 12 parents felt initial engagement was low.  Only two parents, including the example above, remembered a low level of initial engagement, the remaining 10 offered no response when encouraged to talk about their own child's initial engagement.


*Initial engagement with Online Reading World*

All 28 parents provided responses reporting their child's initial engagement with ORW. All responses report positive engagement.  The aspects fall into three broad categories relating to the computer-like capacities, the opportunity to read independently and the element of choice.

One comment typified a frequent reporting theme as parents reflected on their child's initial engagement with ORW.  *"(It's) like a game, they don't know they're reading"* S3G1.

S6G1 linked engagement to the fact that a screen seemed to hold attention span for longer*; "the fact it is on screen makes it more appealing but also the activities holds their attention. He has friends round and it grabs their attention. With other things it is only 10 minutes but with the computer, it is half an hour or more. They're there and they*

*continually focussed on what they are doing …she didn't seem to associate it with reading, it was all like a game to her. Not like learning"* (S9G1).

Several parents described how the functionality of the ORW added to engagement; *"She liked pressing the buttons and watching the bugs came up" (S4G1).* Others talked about how the collection of points was initially very appealing to their child; "[My son's] *thing is that he likes the whole collection of the points… the collection of anything! And the voice*!" (S6G2); *"Just being on the computer, to answer the quizzes and get a 'congratulations!' and collect the coins"* (S7G2).

There were other elements of ORW that contributed to parent perceptions of initial engagement.

Two parents commented that the opportunity to choose what they wanted to read from a collection offered was a motivating capacity for ORW; *"she was in control - there are lots of books there and she gets to pick and she can decide how many.  She's in control"* (S9G4).

One parent of 28 mentioned that they thought the chance to do something independently was also motivating.

Some parents voiced initial concerns at the implementation of online materials for use at home.  **All of the five parents explicitly stating concerns** linked it to the amount of time that their child would spend at a screen; "*I had concerns as he is always on the computer - not just Bug Club but always on the computer. So yes I was concerned about the time he spent on the computer generally*" (S9G2).

The concerns were raised by **5 of the 28 parents,** although many parents made noises of agreement as the points were being made; "*I wasn't sure about it - not sure that I wanted her going on computers so much a little bit suspicious*" (S9G1).  But for the majority of parents **(24 of 28),** a desire to support their children develop good reading habits and to improve their attainment meant that they overcame their initial misgivings; *- but when she started to use it I could see she enjoyed it - so my opinions changed"* (S9G1).  It was viewed as another way to get enjoyment out of reading; *"If they are happy then I am happy*" (S6G4).

Nine of the 28 parents did not know how often they used ORW when they first got the passcode to access at home, giving 19 responses to frequency of use.  **Two of 19 parents** said they had initially allowed their child to access the ORW once a week, **13 of 19 parents** responded that they used ORW a few times a week and **five of 19** parents responded that they went on ORW every day.

When asked if they preferred their child to access ORW independently, **18 responses were recorded**. **13 of 18** parents went on ORW with their child. **Three of 18 parents** did not allow their child to go on ORW independently. Of the 13 parents who used ORW with their child, **nine parents** also made time for the child to use it independently as well.

*Persistence of motivation*

When asked whether they felt their child used ORW more, less or the same than they had during the first term they had access, **five of the 28 parents (17.86%)** felt that they couldn't comment as they no longer used ORW at all at home. This is a 10.5% reduction in the proportion of parents reporting to access ORW. This suggests that for some reason parent motivation to access ORW has ceased. The reason parents gave for not continuing to access ORW at home was that their child had stopped enjoying it.

**Of the 23 of 28 parents still accessing ORW (82.14%) thirteen (56.5%)** responses indicated that **they now used ORW less** than when it was first introduced. This did not necessarily mean that these 13 children no longer liked ORW: S4G3 said "*She still likes reading, she doesn't dislike it, she just prefers books".* The **13 responses** related to a loss of child motivation created by becoming bored with the same format, same games and same activities; S9G3 Likened getting ORW to "*getting a new toy - he still enjoys it but it's used a lot less";* S3G4 thought that ORW had "*lost its novelty*"; S3G2 told how her child "*got fed up of it doing the same games".*

All of these responses would appear to indicate that these parents took their cue with regard to home reading habits from their perceptions of their child's motivation, particularly if they perceived their child was doing well at reading.

**6 of 23 parents (28%)** indicated that their child had sustained the amount they went on ORW. They indicated that from their perspective, their child's interest was at the same level and they continued to like the same aspects of the experience.

**Four of 23 parents (17.3%)** considered that their child's motivation to use ORW had intensified. S9G1 linked the increase in motivation to confidence, saying "*yes, she is more confident with reading. She doesn't think it's reading.*" All four of these responses felt that their child used ORW more, but liked the same things.

A small proportion of the 28 parents reported that their child had increased intensity of motivation for ORW (**four parents of 28; 14.2%),** and **six of the 28** could be understood to perceive that their child's motivation had been sustained.

However, the majority of responses **(18 of 28; 64.2%)** indicate that parents perceive their child had not sustained motivation for ORW **(13),** with some no longer using it at all **(five)**. The main reasons given were that the child becomes bored with the limited games and formats and that they prefer to read print copy books.

*Influences on a decrease in motivation for the Online Reading World*

One factor mentioned considered that motivation was decreased because of the reoccurrence of technical issues; S6G2 talked about how her child was initially enthusiastic and wanted to use ORW but became frustrated quickly because she was not able to receive the rewards. S6G1 was not sure if this was a technical problem or if her child just wasn't reading enough to get the rewards or was getting the quiz answers incorrect; she had not discussed this with the teacher. "*Initially, when my daughter used it, she wasn't getting the rewards and that really put her off. So she'd say, 'oh I can't get them' and she didn't read it for ages and ages – months on end, because she wasn't getting nothing for it. But that was when they really developing their reading a lot."* She went on to say that her child's reading had improved and she enjoyed print copy books so there was no purpose to going on ORW. Other responses concerned with technical issues as demotivating indicate that early failure to get ORW to function correctly can influence decrease in motivation and in **five of the 18 responses talking about demotivation,** result in abandoning ORW altogether. S1G2 said ; "*the hard copy books are more appealing because they more accessible you can just grab them, you don't have to mess around with passwords and logins."*

One parent did talk about how she had persevered and found out how to use ORW herself; "*we struggled with that at first but eventually we figured out how to use the rewards - she likes the doll's house. We tried the sticker one but we can't get it to work even now"* (S4G3). None of these parents who struggled requested support from the school; these parents reported that teachers did not enquire how access to ORW at home was going.

Another factor was a preference for reading from print copy books. This was the case for both parents and their children, as S7G2 indicated; she couldn't recall much about using ORW last year when it was first introduced and now did not use it at all. "*I don't use the online at home but we do read these [indicating Bug Club guided reading print books]… I'm a bit old fashioned like that! I like a book to be a book*."

There has clearly been a **decrease** in use of ORW at home **for over half of the 28 parents** from the six case study schools.  This was primarily triggered by a perception of a decrease in child motivation.  The opinion of the parents interviewed was that these six schools did not offer support and guidance that met the perceived needs of the parents.

*Elements of the Online Reading World*

Parents were asked to reflect on three elements of the ORW – quizzes, rewards and avatars – to explore which features were enjoyed by children and might contribute to examples of persistence of motivation.

*i.        Quizzes*

28 parents were asked if they felt their child enjoyed the quizzes. **21 of 28** parents said yes, **two** said no and **four** were not sure.  **One** parent said they did not know.  This is somewhat surprising since over half of the 28 parents described a decrease in motivation to use the ORW.

Parents linked the quizzes to being rewarded for providing a correct answer, an extrinsic motivation to read.  For example, "*He likes it when he gets them right"* (S6G3)*; "Getting the coin when she got the question right*!" (S4G3).

Some parents, like S7G1 felt that quizzes detracted from the pleasure of reading a book from start to finish; "*she did like them last year but would sometimes get frustrated and say "I just want to read it" as if they were "getting in the way" of the book."*  This parent felt particularly strongly and commented that it would have improved ORW if users could choose to read a book in its entirety first and then work through to answer the questions.

**One of the 28 parents** seemed to hint at persistence of motivation; S9G1 said *"The quizzes help him with concentration and he doesn't get distracted as easily whereas before he would have got distracted or drawn away by something else. It is encouraging for him, he finds them amusing and funny. Some of the books he's had in the past, after a couple of pages he's lost interest but now it is total concentration."*  This comment seems to be describing 'flow' (Csíkszentmihályi, 2009), a state where one is so absorbed by what one is doing that one is described as 'in the zone'.  However, this is just one of 28 responses and therefore it could be concluded that parents perceive that the gratification received from doing the quizzes is one of extrinsic reward, rather than something linked to persistence of motivation.

Parents were asked if they considered that the quizzes affected their child's attitude and enjoyment of reading in general.

**11 of 28 parents (39.28%)** responded positively that they felt the quizzes had contributed to a positive attitude to reading.

All of these 11 parents felt that this was due to the constant encouragement provided by the quizzes. One of these, S9G3 commented *"the thought processes are useful - it makes him reflect on the book and the moral of the story."* This seems to indicate that in **just one of the 11 responses**, the parent perceived that by enhancing comprehension the child's attitude to reading is enhanced; rather, they thought it due to the extrinsic rewards provided by the awarding of coins.

**13 of the 28 (46.42%)** parents said the quizzes made no difference to the reading attitude of their child. S7G1 was typical in her response. She did not think any aspect of ORW affected the way her child felt about reading since she had always been an enthusiastic reader. Although her child did enjoy the ORW, Parent 1 did not think it had made any observable difference to her attainment or her attitude.

**Three of 28 (10.71%)** parents said they were not sure whether ORW had had any positive impact on reading attitudes and habit. S1G1 qualified her lack of certainty by saying; *"she likes the stories that interest her. I don't think it matters whether it is in a book or online or anything else. So if the content is good and interesting to her then she'll read it and be engaged".*

One parent was not able provide a response.

**Half of the 28** parents perceived that their child enjoyed the quizzes the same degree as they had at the point of its introduction. **18 of 28** parents reported a decrease in motivation for the ORW in general. Therefore, fewer parents perceived a decrease in motivation for the quizzes than the ORW overall. As slightly more Y2 parents were among the 28 participants (14:10), this would seem to link with child perceptions where Y2 children rated quizzes more highly than Y1 children.

**Three of the 28 parents** felt that their child enjoyed the quizzes more as they got older, again supporting the interpretation of the child interviews. For some parents, using the ORW had become part of the routine for home reading support; *"it is part of his routine, I manage him doing it before he goes on to play computer games"* (S9G2).

**Seven of 28** children felt their child enjoyed the quizzes less and **3 of 28** were not sure. One parent did not provide a response. Parents indicating that their child had the same

or lesser level of enjoyment talked about the general decrease in ORW usage, a preference for reading print books as they got older and the demotivating effects of the same format and style continuing throughout the reading scheme; "*he liked the idea of it - but without motivation of different rewards, it's not as fun now*" (S3G3).

*ii.     Rewards*

28 parents were asked if they considered that the rewards were enjoyed by their child. **27 of 28 parents (96.42%)** felt that their child was motivated by the rewards system. **One of 28 parents (3.57%)** had not heard of the rewards and did not realise that her child could collect coins when completing books and getting the quiz answers correct.

S6G1 linked the rewards to her child's enjoyment of praise of any sort; "*He likes the points. Like most kids, he likes to be acknowledged and it is a form of acknowledgement. He started adding points to things we do around the house like eating dinner, 'you get five points for eating that potato' and I know it is because of these books because he wasn't doing that before.*"

Rewards were also understood to have a social significance amongst the children.  S7G1 talked about how the rewards had an impact in relation to other children; *"Rewards were the "big push" for her, at the time. She would come home and talk about the other people in her class and who had lots of coins, what rewards they would get, and she wanted them, too."*

S9G3 thought that her son likes to have the home-school link made explicit; *"he likes us to see he can do it and get praise from his teacher, attains some sort of achievement."*

Rewards are also perceived to provide an adult-like experience to children; S9G4 "*they get to pick something? I thought she was buying something off the internet.  She says 'be quiet mum, it's my coins'.  She likes it.*"

**28 parents** were asked whether they thought having rewards had contributed to attitudes to reading and home reading habits. **Five parents** said they did not know and **three parents** said the question wasn't relevant as they did not use it at home for them to have an opinion.  Of the remaining 20 parents, **seven** said yes they did feel that having rewards had had a positive impact.  **12 parents** said they did not feel that the rewards had made any difference to reading attitudes more generally.  **One parent** was unsure whether there had been a positive impact from the rewards.

Parents were asked to consider whether they thought their child liked the rewards system more, less or at the same level as when it was first introduced. Six parents felt the question wasn't applicable as they no longer used the rewards system.

**11 parents** indicated that they felt their child gained the same level of enjoyment from the rewards as they had done initially. Their responses show that the children enjoy the rewards at the moment they are receiving them, but the rewards do not add long lasting particular enjoyment to going on ORW. For example, S6G6 said; *"He goes through phases of liking them but he isn't that bothered about getting rewards in particular."*

S6G3 recognised that greater maturity had brought greater insight, but that did not mean greater enjoyment; *"she understands them more - more thought in how she spends to them. But I wouldn't say she actually likes them any more [sic]."*

**Eight parents** considered that their child enjoyed the rewards less now than they had initially. Parents linked this decrease to less usage and therefore less ongoing dialogue about the rewards; *"just because we just use it less"* (S1G2).

Others recalled specific aspects of redeeming the rewards and the associated challenges with technology that had begun to demotivate their child to access the rewards; S4G3 talked about the size of the tree house and the sticker factory; *"we had to zoom in on it, it's too small"*.

S3G2 reflected on the challenges of working out all of the games without support from the school and how the time spent working things out rather than instant access to spending the rewards had quickly become demotivating; *"it's not that easy to figure out - we didn't know that there was more than 1 page on the sticker book, some of the racing games are really hard to manoeuvre. So that can be counter-productive - they just get frustrated".*

**Three parents** thought that their child enjoyed the rewards more. All three comments focused on the child's motivation to earn more coins.


iii.    *Avatars*

28 parents were asked if their child liked the avatars. **25 of 28 parents** said yes. Their comments included enjoyment of being able to make choices for themselves, the colourful design and interaction with the avatars

S6G1 talked about how her son enjoyed being able to personalise his engagement with ORW; *"He's created his own avatar and named it. I'm sure they help with the reading."* S9G2 had also seen her child enjoying making choices about the ORW design; *"but he changes them and make them looks different."*

S1G3 reflected on how the responsive elements of the ORW were very appealing; *"the bugs interacts with them".*

Two parents were not sure whether their child enjoyed the avatars or not. In both cases the parents said they were unaware of the ways in which the bugs interacted with the children throughout the quizzes and could be changed according to personal preference.

Parents were then asked if they thought that the avatars had had a positive impact on attitudes to reading and home reading habits. **10 parents** said that they couldn't comment; two because they hadn't known what the avatars were and seven because they did not use it anymore.

**12 of 28 parents** felt that avatars had **no positive impact** on attitudes to reading and reading habits at home. A typical response was seen from S7G1. This parent felt that any positive attitudes for reading were about the attitudes the home showed to reading and the opportunities to read print books, which she equated with 'actual reading' as opposed to game playing on ORW. She said that she felt that no aspects of ORW affected the way her child felt about reading or how often they read at home. Her child had always been an enthusiastic reader - she did enjoy seeing the avatars, but that this enjoyment is not the same thing as having a positive impact on habits and attitudes.

**Six of 28 parents** perceived a positive impact that they related to the avatars. All of the six comments related to how interaction with the avatars reinforced their child's confidence; S9G1 said *"it makes her feel good about herself."*

The 28 parents were then asked if they thought that their child enjoyed the avatars more, less or the same as when they had first started using the ORW.

**Five parents** indicated that they liked it less, **three parents** indicated that they liked it more.

**14 parents** felt that their child liked them the same amount.

The table below presents the parent evaluation of enjoyment for the ORW in general, the quizzes and the avatars.

| Element being evaluated for enjoyment Total N= 28 | More | Less | Same |
|---|---|---|---|
| | | | |
| ORW in general N=23 responses | 3 | 7 | 13 |
| Quizzes N=23 responses | 3 | 7 | 14 |
| Rewards N=22 responses | 3 | 8 | 11 |
| Avatars N=22 responses | 3 | 5 | 14 |

Table 15: Parent evaluation of ORW elements

The greatest number of responses across all three (more, less, the same) show that parents think motivation has persisted but not intensified. However, a notable number of children have ceased to access ORW at home (**5 - 6 out of 28; 17.85% - 21.42%).** A small proportion of children (**3 of 28**) could be described as demonstrating persistence of motivation for the ORW as a whole and for the two elements of the quizzes and the avatars. Though the number of responses is small, it is clear that most of parents interviewed thought that the quizzes, avatars and rewards were still enjoyed at Phase 3. Unlike the children's rating of the ORW elements, the ratings are very similar. The parent perception of all three elements of ORW being enjoyed equally may be because there were a number of parents of Y1 children in this sample. The year group of each parent-child pair was not recorded at all data collection points so it is not possible to explore possible links between increase of motivation and the year group of the child. This would be interesting to do and may demonstrate accuracy of parents' perceptions when age is accounted for.

Parents were asked to give a rating out of 10 for the ORW in general, the quizzes, the rewards and the avatars. **Two parents** (S7) do not have a recorded response. Therefore, the average scores presented below in Table 16 are calculated from 26 responses.

|  | ORW as a whole | Quizzes | Rewards | Avatars |
|---|---|---|---|---|
| **Mean rating** **N=26** | 8.4 average score | 8.3 average score | 7.72 average score | 7.96 average score |

*Table 16: Parent ratings of ORW and its elements*

Overall, parents appear to see ORW as an added extra; a nice thing to offer and enjoyed by many of the children, but not a key aspect of reading attainment attitude or reading habits at home.   For the majority of the children motivation to use it has plateaued, in some cases decreased markedly.  In over half of cases (**18 of 28**) parents feel less positive about ORW than they did the previous year.

Parent comments indicated that in some cases they felt that the school did not help them get the most out of ORW nor provide support to overcome technical issues and to provide a thorough understanding of how it could be used. Most parents perceived that the support they received did not help them make the most of ORW at home.  These parents became less motivated to use ORW and therefore tended to provide less access to it.  Two clear factors that influence the decline in parent motivation for ORW are (i) the motivation they perceive in their child and (ii) the attention paid to the resources by the school.

> *Summary of Section Findings*
>
> - Eight out of 10 parents interviewed thought that their child was either good or very good at reading.
> - Two out of three parents thought that their child's attitude to reading had not changed since the introduction of Bug Club and ORW.
> - Negative attitudes to reading may be resistant to change as one of the 28 parents reported that their child still refused to read a book but would play the games and listen to the books being read on ORW.

- Initial engagement with ORW had been reported as high, with the categories of computer-game like functions, independence when reading and freedom of personal choice perceived as the reason for this. Just over 90% of parents had accessed ORW at home in Phase 1. This has fallen by around 10%
- Almost one sixth of parents still enabling access to ORW at home reported that the reason for sustaining motivation to go ORW was to collect coins and go on the games, not to read.
- For the parents still accessing ORW decline was reported by one in three parents interviewed, with almost one in five of parents stating that they no longer use ORW at all.
- Some parents reported that a lack of support from the school had influenced their decline in motivation and usage, although teachers report that they had made great efforts to engage and motivate parents.
- Other reasons for the decline were reported to be frustration with technical issues and perceptions on a decrease in motivation for ORW on the part of both teachers and children.
- Parents gave the highest rating to quizzes, though the scores covered a wide range.

### *Teacher motivation for Bug Club*

Teachers who had used the Bug Club from the beginning of the study period were approached to participate in face to face semi-structured interviews. Ten experienced Bug Club users and five experienced Head teachers agreed to be interviewed. In addition, six Literacy Coordinators were interviewed. Three of these were not experienced Bug Club users (for example, because they taught a year group other than those that were allocated for resources in this study). Data to explore continuing motivation were collected from 21 teachers in total.

**Nine out of 10 teachers** who had used Bug Club the previous year felt that implementation had supported their teaching skills. To qualify this statement, teachers said *'It has given me time to work on other skills because it takes away some of the planning time'* (S1T4); *'resources have helped me plan and develop'* (S9T3). However, frequency and patterns of implementation had altered. Some mention of this has already been made in the previous section on child motivation. All schools and all teachers

report that they continued to use Bug Club guided reading books, but usage of the ORW, phonics materials became less wide-spread and less frequent.

Teachers were beginning to use the Spelling and Grammar Bug materials more than in Phases 1 and 2 of the project. This linked with the changing expectations of the national curriculum and a heightened focus on teaching grammar rules and terminology: *"The biggest change was the new curriculum and to cope with the much-upped expectations of the new curriculum. We have put a massive focus on SPAG because it is so high profile now"* (S1T1). At a time of change, and some insecurity amongst teachers, the Bug Club grammar materials were seen as supportive: "*It is nice for teacher confidence because it has the grammar aspects as well and backs up what we're doing now. It reinforces what we do and it has the whole package*" (S6T2).

Some teachers expanded on their reports of less frequent usage of some of the materials.  As the Y1 children moved into Y2 (see Table 4 for phases of the study), the requirements of the curriculum and the learning needs of the children became more evident, and Y2 teachers were becoming more aware of preparing children for end of key stage SATs (between data collection point A2 to A3). This seems to have influenced their engagement with Bug Club, particularly the ORW: *'last year I did it a lot, this year I have to admit I've not done it quite so often, mainly because the parents haven't been asking for them to change their books. It doesn't bother me - it's important that they are reading, so as long as they are reading their reading books that's OK with me - It's just time - and in Y2 we've got SATs so the curriculum has changed'* (S4T2)

The quote above suggests that the perceptions of Y2 children' needs as they approach SATs affected teacher engagement with ORW and therefore how frequently and consistently teachers implemented it.  However, Y1 teachers also reflected that their engagement had diminished;*' I'm using it less, I'm less engaged but that's because that's meeting the needs of my class [Y2] - I wouldn't say the [children's] engagement is any less, it's probably around the same'* (S3T2).

However, **all 10 teachers and the eleven HTs and Lit Cos** demonstrated persistence of motivation for the quality, breadth and nature of the print Bug Club guided reading books some 18 months after initial engagement, as these comments illustrate: "It *comes back to the content, if you can grab the child's interest through colourful, interactive and interesting information then they will be engaged and want to read more"* (S1T1).

 *"They have access to good, interesting stories, they're reading more, that knowledge and understanding gives them something to draw on when they're writing so we're seeing an improvement in their writing skills as well"* (S7T1).

In four of the six case study schools, head teachers and literacy co-ordinators were looking towards expansion of the Bug Club guided readers to other areas of the school: *"Reading is such a high profile - it's so important to everything, the amount of money and the amount of time that we put into Bug Club is worth it in the benefits we get back, and I'm willing to invest in that"* (S4T1).

Teacher recommendations provide further evidence of different degrees of engagement with and motivation for the range of Bug Club materials (Table 17 below).

|  | 5 Teachers of Y1 children (mean score) | 5 Teachers of Y2 children (mean score) | All teachers (mean score) |
|---|---|---|---|
| **Bug Club as a whole** | 8.8 | 9 | 8.9 |
| **The ORW as a whole** | 7.8 | 7.5 | 7.66 |
| **Quizzes** | 8 | 8.66 | 8.42 |
| **Rewards** | 8.75 | 8.6 | 8.71 |
| **Avatars** | 9 | 9 | 9 |

*Table 17: Teacher recommendations for aspects of Bug Club*

The teacher evaluations aligned with the child recommendations and evaluations; teachers of Y2 children rated the quizzes slightly higher than the teachers of Y1 children, suggesting they saw children enjoying or benefitting slightly more.  Teachers of Y1 children rated the rewards slightly higher than the teachers of Y2 children, again aligning with the finding that Y2 children in some cases no longer perceived being a reader as associated with earning rewards.  Teachers of Y2 children rated the ORW slightly lower than teachers of Y1 children. This aligns with the child reports that they had experienced ORW in Y1 but were no longer given as much access now they were in Y2.  The recommendations scores do suggest that teachers were more motivated by aspects of Bug Club that they felt the children benefited from more or enjoyed more.

Table 17 above shows that the 10 teachers from the six case study schools rated ORW lower than Bug Club as a whole (**means of 7.66 and 8.9** respectively).  This suggests that they were less committed to the ORW element of Bug Club, although teachers still rated these highly in terms of motivation and engagement. Fewer teachers said they would recommend the ORW element to other teachers (**All 10** gave an **8** or above rating to Bug Club as a whole, but only **five of 10 responses** gave an **8** or above rating to the ORW).  One comment gave some insight into why that might be. A teacher reflected on finding ORW cumbersome to administrate, for example in the allocation of books. She struggled with the management of it in terms of tracking what children were reading online and allocating more books. As she did not have a TA who was competent in ICT, it had not been used to its fullest (S7T1). Another teacher added; '*it isn't very user-friendly software. It's not because the staff don't know how to use it, it's just frustrating - you have to tick individual children and that takes a lot of time. The best thing they could ever do would be for the system to auto-generate the next book for the child - I'm sure that's possible; other software out there does that*' (S3T2). Technical challenges resulted in conflicting pedagogical practices in the delivery of Bug Club as guided reading with allocation of books not addressing the instructional context. For instance, one teacher commented; "*We've just actually put on a whole level, because we decided, rather than just putting on a few books, this time it's just easier to just bang the whole level on. So we've done that and I just kind of say, 'look, these books are on and you know there's only one or two who's going to do it"* (S7T3).  Other teachers were concerned that the question styles did not offer enough challenge to meet the needs of the curriculum and were seeking alternative home reading work to address this.

Supporting the interpretation that teachers' motivation for and usage of materials in the classroom was shaped by their perceptions of child benefit and enjoyment, the potential demotivation for children if they were unable to complete the quizzes was of particular

concern: *"I think it is an important part but I'm not sure how significant it is for all children because some of them their reading comprehension is not great and it can demotivate them"* (S6T3).

As mentioned above, the period between A2 and A3 coincided with the introduction of new interim assessment procedures for Schools in England (DfE, 2015). Teachers commented how Bug Club's use of book bands to provide a gradient of challenge proved a helpful support to prepare for the statutory assessment of Y2 children; "*Bug Club helps with structure on assessing the level of the students and prep for SATs because you know the expected level. The progression maps put online help me feel very secure with our reading judgements"* (S1T4); *'The biggest change was the new curriculum and to cope with the much upped expectations of the new curriculum. Bug Club has definitely supported the school's literacy goals because in years 1 and 2 that is the main supporting tool"* (S1T2).

As mentioned above, some Y2 teachers in the six case schools said they made different decisions regarding choice of resources during the time that they were preparing the children for the SATs arrangements.  In order to explore whether Y2 teachers may have used fewer Bug Club materials because of the new assessment procedures, 21 teachers across the 31 schools not included in the case schools for Phase 3 were interviewed to investigate the reasons for any changes in usage.  Of these teachers, 12 were in Y2. Just under half of them stated that they changed the pattern and frequency of Bug Club usage during the year to accommodate preparation for SATs.


S25T1 a Y2 teacher in a school which began implementing Bug Club in September 2015 talked about how she used ORW less; "*I allocate less books in the summer term because of all the other stuff that goes on. The poor kids are preparing so much for the tests so unless they want to read more, I don't like to give them too much home reading to do that time of the year. I felt like I used a lot more time looking at the tougher numeracy sections in the curriculum too."* They do not refer to anything different that happened because of the changes in assessment arrangement, but of a change she anticipates having to make every year.

Teachers began reducing certain aspects of Bug Club towards the latter half of the spring term as S15T1, an experienced Bug Club school) explains*; "Year 2 have quite a lot of assessment now, not just through the classroom assessments but also the summer tests are ramped up a bit this year and the school approach was to start preparing the children gradually throughout the year and then a big push after Easter."*  S15T1 does refer to a

slight change during this year, but her comment does not suggest the changes in assessment arrangements this year would have resulted in changes that were far reaching or unexpected. She talks about changes to patterns of implementation of literacy instruction that need to be made each year as Y2 children approach SATs.

S9 (an experienced Bug Club school) refers to the change consistently mentioned when giving SATs as a rationale for changing usage; "*We stopped using the online books as the year went on and after Christmas for different reasons but mostly because the SATs had to be sat in a specific week in May so the prep for that was quite full on. In the past, we had the flexibility to sit them when we wanted and could even go until the end of June. It was all a bit more condensed this time around and so the online books became quite low priority.*"

SATs were also given as a rationale for not starting an element of Bug Club afresh when confidence for an existing product was high across the school; S13T1, an experienced Bug Club school) said *"as a school because we didn't want to risk changing to a new grammar and spelling scheme with the changes in key stage 1 assessments at the end of the year being more focused on this. It was a bit of a safer bet to stick to what we knew definitely worked rather than learning a new scheme".*

These five teachers did not think that changing the frequency of usage had made an impact on attainment and did not appear to perceive the new assessment arrangements to have had more of an effect on what they chose to use and how much they used it than any other year. So, whilst the usage of certain elements may have reduced slightly more during this particular year, there is not sufficient evidence to suggest that the declines are due to the possible instability of this particular year. A general drift away from Bug Club back to more familiar routines may be a feature that could be anticipated as an implementation of Bug Club matures beyond the initial introduction and associate rise in motivation.

Assessment more generally did not affect teacher motivation for and usage of Bug Club. All of the six case study schools had systems for tracking and assessing progress. Of the Literacy coordinators interviewed, two said this could accommodate the implementation of Bug Club assessments. The remaining four found them too cumbersome or not trustworthy enough to form part of schools' on-going assessment: *"In terms of assessment, that's a missing gap as well - it is comprehensive but it hasn't proved very helpful in terms of the data it produced ... We all access through the same portal and all the children's information is in the one place, which makes it confusing'* (S3T2.). Seeing

the Bug Club assessment as an unnecessary additional extra was also evident in interview data from teachers of classes with the highest reading gains: '*I didn't think I would have the time to track these as well as everything else*' (S14T2). Analysis suggests that 'experienced' Bug Club schools felt more secure with their own assessment procedures, and were using Bug Club if/when it supported what the schools were devising to assist the new national assessment framework, for example: *'we didn't use the Bug Club assessment tools, but we are following the banding criteria'* (S9T3).

Motivation could not be described as sustained in either parents or children.  Less parental satisfaction than observed in Phase 1 is evident in Phase 3.  This accompanies less usage of ORW at home and less parental perception of ORW's potential for positive impact on attitude to reading and home reading habits more generally.

These findings were supported by Teacher perception of parent satisfaction and usage. In Year 2, teachers generally expressed a lessening of parental engagement with the ORW. Of the nine respondents, all reported that the ORW was still used for home reading, yet five had perceived decreased engagement from parents from the previous year.

Some teachers admitted that it was partly due to them not promoting use of the ORW as much, or balancing out usage with more SATs-type preparation: *'last year I did it a lot, this year I have to admit I've not done it quite so often, mainly because the parents haven't been asking for them to change their books. It doesn't bother me - it's important that they are reading, so as long as they are reading their reading books that's OK with me - It's just time - and in Y2 we've got SATs so the curriculum has changed'* (S4T5). Others had abandoned holding parents support sessions as the take-up was generally poor, and that as busy classroom teachers they felt this not good prioritising of their time: *'When we first launched it we held a club twice a week to trouble shoot and to provide access to technology. Only two parents came and then they stopped too. We gave up'* (S3T2).

Teachers qualified by saying that this was not reflective of a drop in parental engagement with reading, rather that more predominantly home reading was using the print books. One positive aspect was that teachers felt that even without parental support, children were able to read more at home as they were able to access the ORW independently. There was a perception that Bug Club had settled into its place within the wider school literacy provision. Children as engaged, independent learners, able to make choices about what and how they read was a recurring theme in discussions with teachers: *'It*

*allows the independence for children and the freedom for them to read as much as they can at home'* (S1T1).

> ### *Summary of section findings*
> - In general, class teachers implemented Bug Club less frequently and less consistently. Context factors may influence continued implementation, for example, curriculum needs begin to be main focus for Y2 teachers as their Y2 children approaches SATs.
> - Teachers' recommendations align with child evaluations; teachers' initial engagement and persistence of motivation are shaped by their perceptions of benefit to and enjoyment of children.
> - All 21 class teachers in the six case schools all remain highly motivated to use Bug Club guided reading books.
> - Four out of the six case schools were looking to expand the use of Bug Club guided reading books into other year groups.
> - Teacher engagement with ORW is less than with the print resources.
> - Teachers' perceptions are that Y2 children prefer the quizzes whereas Y1 children prefer the coins and rewards.  This aligns with children's ratings.
> - Three out of six case schools continued to use Phonics Bug with Y1 children and evaluate it positively.  However, within these schools, not every teacher used it.

### *Threats to sustaining teacher motivation*

Aspects that influenced continued teacher motivation emerged from the data.  Motivation was moulded by teacher perceptions of children, parents and Bug Club itself.

*Technology competence*

There was a range of teacher confidence and competence with technology evident across the case study participants. In places this remained an area of concern, with some comments reporting active avoidance of using the technology: *'My downfall is that I'm not techy – I like books, so I'm not into all this online stuff'* (S7T3) and others not promoting home reading in the classroom and with parents.

The Y2 teacher at S7 was noticeably reticent about using the ORW, with several references to IT throughout her interview: '*The questions and things they ask, it is really good, but it's just that I prefer not to use it if I can get away with it'*. This lack of confidence and competence had been recognised and acknowledged by the head

teacher (who was also the literacy coordinator). She talked about this particular member of staff, showing an awareness of the problems she had with IT: '*She struggles with the management of it, though, in terms of tracking what children are reading online and allocating more books etc.*' (S7T1). The head put into place support from a more technically competent member of staff who would work alongside the teacher to develop her use of Bug Club: *'The next step is to develop ICT confidence; the issues are more about staff confidence in using ICT than it is about using Bug Club resources'* (S7T1).

There were technological issues encountered by schools which were unrelated to Bug Club itself. The case study schools varied considerably in their IT capacity, with some still in the early stages of working with technology. For example, S4 school was in the process of building and setting up a new computer suite and this still had not been completed at the end of Phase 3 of the project. This was one reason given for the limited use of ORW in school: *'we've not moved that on just yet'.* (S4T3). Others identified limited resources, such as access to tablets: '*I'd like to bring them into the class. That's more to a lack of resources than wanting to do it'* (S1T3) or speed of internet access hampering the flow of the lesson: *'Because we're* [county named] *the internet does go down every so often which does slow down the lesson'* (S1T2). However, others looked to overcome the limitations within school, such as integrating the small number of tablets into the literacy carousel of activities so that only six needed to be used at any one time, allowing the teacher to pick up on technical issues arising more easily (S3T5, Y2 Teacher) and the Literacy coordinator at S9 noting a growing confidence in the teachers' use of iPads in their lessons.


*Technology responsiveness*

The Literacy co-ordinator at S3 was very IT-knowledgeable and he was particularly concerned that the technology was not as advanced as teachers' capabilities required. He pointed out that teaching IT was now part of the curriculum: '*teachers have improved their subject knowledge and so they're confident already*'. He felt that the software was not user-friendly citing, for example, the system for allocating books to children: *'It's just frustrating - you have to tick individual children and that takes a lot of time'.* He felt that teachers had lost motivation to use the on-line platform because it increased workload: *'The best thing they could ever do would be for the system to auto-generate the next book for the child. I'm sure that's possible - other software out there does that'* (S3T2).

This feeling was not the same in all schools. The Literacy coordinator at S6 school expressed satisfaction at the ease of use*: 'It is very straightforward in many ways and*

*once you get going it is quite easy to setup'.* It is possible that the more technically-aware teachers looked for more because they knew more. For those less computer-literate teachers, the system as it operated was suitable for their needs.

There was dissatisfaction with some of the operations, although teachers had found ways to overcome these in the classroom: '*Some of the games are a little bit slow, and I can click the button quicker than the children would have. I know how it works'* (S4T3). At S9, the Literacy Coordinator used whole class lessons with a class set of tablets which meant children could support each other with the technical aspects rather than demanding teacher time: '*Now every week everybody has the iPads so they all get a chance - special time for Bug Club. They can all log in - they can help each other, everyone using them at the same time - so much easier'* (S9T2). Schools commented positively on actions taken by Pearson in response to issues. At the start of the project, the ORW did not operate on iPads: '*Not being iPad compatible was a problem because we're an iPad school so that was an issue so now it isn't, it has made a big difference*' (S1T2).

*Professional development*

The professional development sessions received by schools from Pearson all focused to a greater or lesser extent on the ORW and assessment elements of Bug Club. Teachers who expressed a reflection about the professional development gave mixed responses. For some teachers, this was deemed to be adequate for their needs, especially where head teachers had included a confident user of IT into the Bug Club school team. For teachers less confident with IT, the professional development did not seem to address needs adequately. For example, the Y2 teacher at S1 said "*We didn't get any training on how to use the data from Bug Club.*" The head teacher of S7 school reported that for one teacher: '*the PD "freaked her out" with the technology*'. The head had supported this teacher by paring her with a more technologically-minded TA in Phase 1 of the project *'because she's really good with computers'.*

The Lit Coordinator at S3, himself very computer-literate, felt that the professional development had offered unhelpful advice about the management of the ORW:

> *'When we first had the training we were advised to think maybe just have four or five groups and treat 6 children as the same; they'd always have the same books. It just doesn't work like that, because you have 30 children in your class and they're 30 individuals - and we were finding that children were having 50 books in their*

> *library if you did it the way we were taught to do it and kept on updating in the same way'.*

The same teacher felt that the professional development provided needed a greater focus on pedagogy. Bug Club is *'just a resource that goes alongside teaching and so if you have already got ideas, but that's the most difficult thing, especially if you've got a new member of staff or somebody training'* (S3T2). Teacher understanding of pedagogical issues were inherent in the successful use of the ORW, and how teachers planned and assessed using the technology was interlinked with their knowledge of their craft.

*Parental engagement strategy*

Three teachers commented that parents preferred print books to the ORW: *'Some of the parents still prefer hardback books in their hands'* (S4T3); *'Some parents are a bit scared of the technology, some prefer to just use the books'* (S1T4). The Lit Coordinator at S3 school tackled this head-on: *'the message for the parents was this is another way to access a book, it's just as good as reading a printed copy and we would like you to alternate between them. We want the children to access the technology, but you still need to read the printed word'*.

Schools commented on a drop-off in parental engagement in the ORW after the first year. This aligns with the **6 of 28 (21.5%)** drop-off in usage reported by parents. Various reasons were volunteered for why usage at home may have decreased. Several cited that parental interest hadn't been 'sparked' in the initial stages. Others commented on the issue of access to tablets or computers: *'quite a lot didn't bother, and you'd say, well, why aren't you doing it and they'd say, 'Oh my brother is using the iPad', and you know, so you just kind of give up really'* (S7T3); '*One parent did say that they haven't got access to computers at home so their child couldn't read so we offered them access to the computers at school for some after school days, but there was little uptake. They still have the hard books though'* (S1T2).

Others who expressed a reflection noted that it was the interest of the children that had waned. This was not necessarily perceived as a negative but rather that after the initial interest, the use of ORW became one of a range of reading options available: *'I don't think it's because* [the children] *are bored or don't like it - they're just doing other things. But showing them again the games, that does boost them a little bit'* (S4T3); '*their motivation for reading the online platform has moved, they just want to read chapter books so we've let them do that'* (S3T2). As a teacher very confident with IT, this literacy

coordinator saw a falling off of the initial enthusiasm for Bug Club as a natural development as the children in his class developed as readers:

> *'I don't think it's a good thing for Pearson to hear perhaps but the children were very enthusiastic at the beginning, that enthusiasm decreases as their enthusiasm for reading increases, freedom to choose whatever they want to read increases. The more confident and higher attainment they had as a reader the less engaged they were with it. Building up the material for R and consolidating in Y1 is where the good business model is. KS2 they don't need it in the same way'*

(S3T2).

For the teacher who expressed herself uncomfortable with the technological side of Bug Club, her comments seem to indicate that she did not encourage it with her class: *'[The children] don't really mention it, even those that go on it don't really talk about it actually'* (S7T4).

Schools who continued to see sustained parental engagement cited the on-going requests from children as one reason: '*Children ask regularly about what books they have for the weekend and they want to make sure they have something to read at home'* (S6T2); *'It's been the materials that have engaged them I think - the sense that they have been very clearly in control of their own learning*' (S9T1).

The Head Teacher of S7 school, who was also the literacy co-ordinator, was leading her staff to maintain the effort of reaching the hard-to-reach parents, seeking new ways to attract and sustain their interest:

> '*We've found the best way to do that is to have individual or small group meetings with them and show them how to use the resources because they were a little anxious about doing in front of other parents. We've seen a difference when we've been able to direct our attention at specific parents'* (S7T1).

This sustained effort was also seen in S9 school. First attempts did not gain the attention of a large number of parents: '*I would have liked to have more parents - next time I might hold the meeting at three different times during the day - I could get more parents in that way'* (S9T2). The head teacher was working with the Literacy coordinator to reach more parents by investing further in technology: *'What we're doing now is ordering Kindles for every child for the sole purpose of extending Bug Club throughout the whole school and making sure the children have access. The parents are very keen on it and are very supportive'* (S9T1)

What became evident was that for those parents already engaged and motivated, the ORW was received positively and seen as a useful addition to the provision for home reading. Where communication with parents was difficult (the 'hard-to-reach' parents), although an initial surge of interest had been seen in Phase 1 of the project, this seemed to be levelling out and the access to technology was still a barrier for access which schools were finding hard to overcome:

> *'Out of school it's in the parents' hands. Parents that keep on top of where their children are at, they are very good - they do read more with the ORW - a few ask for more books. Some of the others, when I look on screen, they have not read as much. They still read just the physical books not online. Some children do have access to computers/iPads but some of them may not - so it may be holding them back'* (S4T3).

### *Dynamic effects of demotivation*

The findings above suggest a multi directional influence that impacts on usage of ORW. The teachers reported that they used ORW less because their perception was that fewer parents were interested.  Fewer parents used ORW because they perceived both children and teachers as less motivated by it. The children had less access/usage and therefore their engagement with it supported by the teacher was less frequent '*At first it was a big deal for them but then it kind of dwindled off - they didn't keep up with the rewards system*' (S4T3).
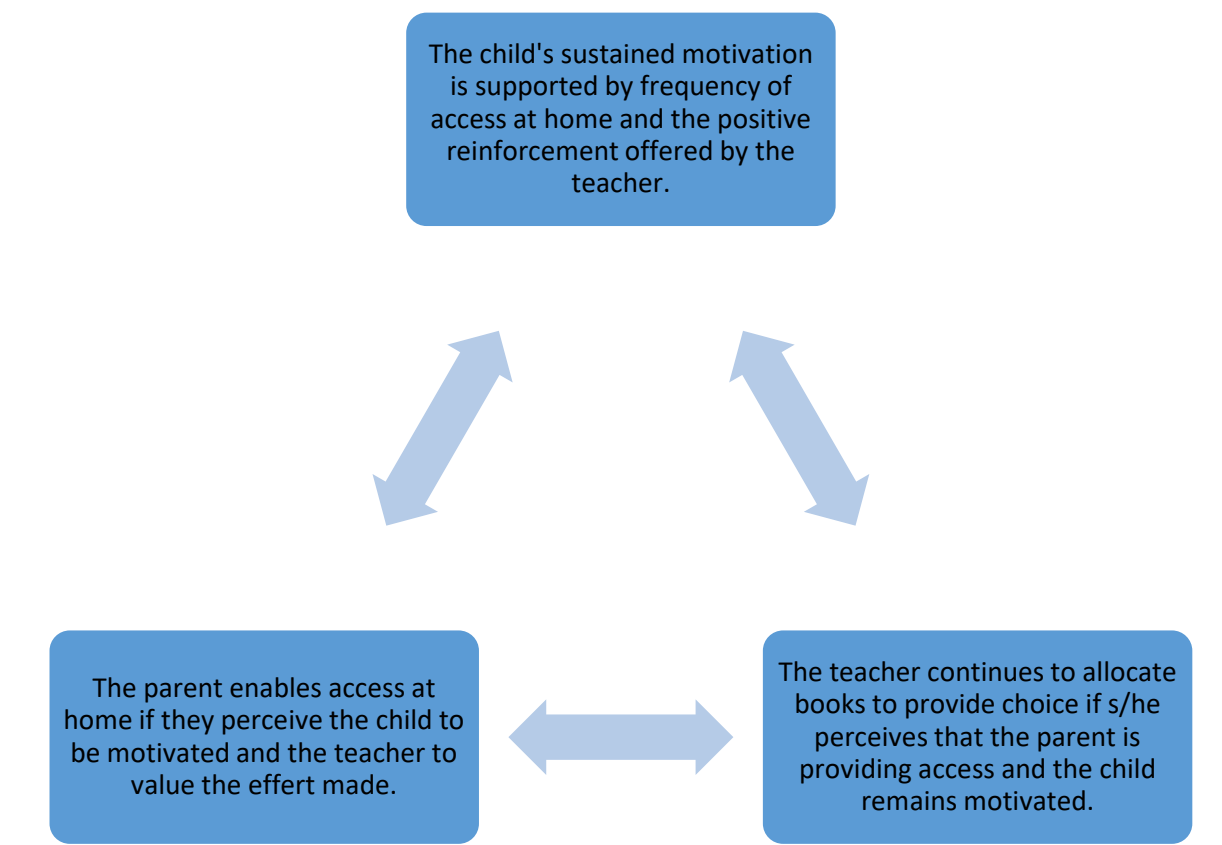
The child's sustained motivation is supported by frequency of access at home and the positive reinforcement offered by the teacher.

The parent enables access at home if they perceive the child to be motivated and the teacher to value the effert made.

The teacher continues to allocate books to provide choice if s/he perceives that the parent is providing access and the child remains motivated.

*Figure 5: Child access to ORW is influenced by parent and teacher perception*

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*Summary of section findings*

- Teachers' motivation for Bug Club is shaped by a range of context factors and personal professional characteristics.

- Teachers' motivation is affected by perceptions of parent and pupil motivation.

- The range of technical competence meant that sustained use of the ORW looked very different across the case study schools. This variation led to greater or lesser parent and child involvement as some schools were motivated to sustain engagement, whilst others were content to let usage slip and rely just on the print books for home reading.

- Where usage of ORW was less, this was not necessarily seen as a negative, but rather as a positive development in children as readers as they moved towards the end of KS2, although for others it does seem to be as an outcome of limited motivation owing to dissatisfaction with some technical aspects of the programme or limited technical competence.

**2. What does implementation look like in classrooms where reading gains are high?**

Data from the schools who had been implementing Bug Club since January 2015 were scrutinized in order to identify teachers whose classes had higher than average reading gains. Data at both A1 and A2 were used. Class reading gain scores were explored to identify teachers of classes with gain scores above the average at either A1 or A2. Eighteen teachers were approached to participate in a telephone interview to talk about their approach to literacy teaching during the period that the class had achieved high reading gains. Four teachers taught classes that attained above average reading gains scores at both A1 and A2. Thirteen teachers agreed to be interviewed. At the point that the sampling was done, A3 data collection had not yet taken place. When A3 reading gains scores were available, 11 of the 13 teachers sampled had again taught classes with higher than average reading gains scores. Almost all of the 13 teachers interviewed had by now taught two different classes, showing that the effect was being produced by the teacher, not that particular group of children. The sampling strategy had effectively identified teachers whose classes are consistently above the average reading gain scores and are regarded as providing the most effective teaching.

*Usage*

Findings from Phase 1 had already demonstrated that teachers of classes with highest reading gains did not necessarily use all the Bug Club elements, although a significant reduction in the amount of materials other than Bug Club being used (paired t=2.522, df 65, p<.05) was reported by schools in general. Use of non- Bug Club materials continued throughout Phase 3. Additionally, use of some of the Bug Club materials was reported by teachers to have declined throughout Phase 2 and into Phase 3.

The teacher at S20 school, for example, talked of supplementing phonics materials for the very lowest ability group: *'I used the simpler Read Write Inc books for them as I felt they needed a more structured approach'*. The teacher at S4's also talked of the phonics materials not meeting the needs of all her class, and needing to source other material for children who were working at phonics stage 5 or above. At S12, the teacher supplemented the guided reading print books for children working at higher levels who needed more challenging texts. This also links with the demanding needs of the curriculum which many teachers had identified, in addressing the new assessment framework.

In Phase 1, findings showed that frequency of usage did not correlate to positive reading gains. Table 18 below shows us that some classes showing high reading gains scores reported comparatively low usage, others much higher.

| Class Id | Reading Gain score | Reported frequency of Non-Bug usage |
|---|---|---|
| 2 | 8.0446 | 78 |
| 8 | 8.4631 | 88 |
| 10 | 8.7938 | 82 |
| 16 | 7.6587 | 114 |
| 17 | 8.9074 | 89 |
| 18 | 9.2447 | 94 |
| 26 | 8.9418 | 104 |
| 40 | 9.6280 | 82 |
| 43 | **12.6581** | **121** |
| 59 | 8.4149 | No return |
| 62 | 8.9758 | 56 |

*Table 18: Reading Gain Score and Non-Bug Usage in Phase 1*

Therefore, frequency and amount of Bug Club usage is not the causation of the advantage seen in the mean reading gain score seen in the Bug Club schools during Phase 1. If Bug Club were wholly responsible for the advantages seen there would be a clear pattern in the data – high Bug Club usage would result in high reading gains score.

The 13 teachers who taught classes in the highest quartile of greater reading gains seen at baseline to A1 and A1 to A2 were interviewed to explore characteristics of usage, frequency of usage and patterns of implementation.

*Bug Club books for guided reading*

**All of the 13 teachers** interviewed used Bug Club guided reading books in their classroom. **10 of 13** teachers used the Bug Club guided reading books every day, **one teacher** used them **four times a week** and **two** used them **2-3 times a week.  All 13** considered that the materials were suitable for use for all the children in their class, regardless of attainment level and linguistic background.  10 of the 13 used the teacher materials, with half of that number always adapting them rather than using them as presented.

The sorts of amendments undertaken by these teachers included selecting from the content to integrate with existing school policy and practice: The teacher at S3 said: '*We have been able to identify the things that work really well, that children will engage with and staff feel comfortable with and so we can pick and choose the best bits'*. At S6, the teacher adapted the resources to support shared group activities rather than as individual worksheets. Data indicate that for the teachers of children with the highest reading gains, growing familiarity with the materials enabled them to use Bug Club more selectively to address their teaching priorities and the needs of their children: *'I approached the books from a different point of view: the 'whole picture' and how reading is linked to writing'* (S9).

Frequency of use of the online version of the Bug Club readers was much lower with only two teachers using the electronic version of the readers in the classroom regularly (more than twice a week*) 'we don't do that as much'* (S6). This is explained in some part by their views of its suitability for all children in their class "*We don't use them in class - only ever for home reading*" (S4s). Two felt that it was less appropriate for high attaining children to be using the books online, preferring them to read hard copy books uninterrupted by the quizzes and interactive design. Others reported technical issues such as slow wifi or limited use of iPads: *'Class does not have access to ipads for classroom use'* (S12).  One of the three teachers that did not consider it an inclusive tool said that inequitable access to ORW at home made them wary of using it in the classroom as it emphasised differences in home literacy environment, which is why he did not use it for classroom teaching. Talking about children who had more limited or no access at home, the teacher commented: '*children who didn't know how to work the technology at home would get a little demoralised then, not because of the reading content but the technology'* (he gave the example of children who had collected no coins in their tree house because they weren't reading at home). '*The only access they had to gain rewards was in school. The difference was evident and children are aware*...' (S3).

Only teachers who viewed it as promoting inclusion used it regularly. The teacher in S9, for example, integrated the ORW into the carousel method of planning so that children had access to the books in different formats across a week. She said: '*All children benefit. The fact that the scheme begins at a low starting point is supportive for the lower ability children. Bug Club encourages independence for higher ability readers - they get to know the routine'*.

*Bug Club books for independent reading*

Sometimes, school policy inhibited the wider use of Bug Club guided readers. In S12 school, the teacher reported she had been advised by senior management to use Oxford Reading Tree for independent reading. S3 made a policy decision to not send the readers home, giving children access to the books online only. Schools such as S9 and S4, which operated a carousel approach to literacy planning, reported that independent reading (either print books or ORW) would follow the guided reading session with the activity sheets used subsequently. The teacher at S4 attributed this to the quality of the guided readers: *'The books are appropriately levelled. The teacher knows that the child can read independently, having already read it in guided reading'*.

*Phonics Bug*

The use of Phonics Bug guided readers was not as consistent across the sample; of the **13 teachers of children with the highest reading gains 10 teachers** reported using the Phonics Bug readers. Positive responses included: *'it helps with guided reading because it is well differentiated' (*S14*); 'They are phonetically plausible, the sequence works well, a good support for teaching'* (S4). **Five of those 10** used the Phonics Bug guided reading books once a week.   Teachers pointed to the use of these books predominantly for children who were struggling with literacy learning (**six of the 10 teachers** using Phonics Bug guided reading books): *'They are decodable, so they fit with expectations. Most children don't need them'* (S3), supporting inclusive practices in the classroom.

The majority of the 10 teachers using Phonics Bug (**six of 10 teachers**) used it alongside their existing materials and phonics scheme, predominantly Letters and Sounds or Read Write Inc. Teachers generally preferred the Bug Club guided readers to the Phonics Bug readers *'There's not that much to the phonics ones, they're good for just drilling the phonics rather than grabbing the children'* (S6).

*Phonics Online*

**Eleven of the 13 teachers** used the Phonics online materials for the teaching of phonics.  **Four teachers** reported they generally used it just **once a week**; **three teachers** used it **2-3 times a week** and **four teachers** indicated they used it **4 to 5 times a week**.  The two teachers who were not using the class material in Phase Three of the project gave a range of reasons, predominantly that it no longer met the needs of the children – either that they were beyond the phonics stages covered by the materials or that the class was of higher ability and so materials were no longer suitable. This indicated that teachers were selective in their use of resources rather than adhering to material which did not address their learning objectives.

There were some instances where the teachers of the most successful classes did not use the phonics teaching programme at all (**two of 13 teachers**); usually this was because there was an established phonics programme that was meeting the needs of the school: *'We follow the School's own teaching programme Read Write Inc* (S12).

Where the Phonics class materials were used, they were mostly seen as complementary, or for children identified with special needs or in intervention programmes. The teacher at S20 school noted how the Phonics Bug printed materials supported the planning for the weekly Literacy carousel. This teacher reported how useful she had found Phonics Bug screening assessments just prior to national phonics screening check. Other teachers also felt it supported the phonics check: '*We a*dapted to meet the needs of the phonics check: different examples of words. It aids assessment for target groups'* (S12).

The teachers of Year 1 children generally expressed that the children engaged with the phonics teaching programme*: 'it is interactive and fun which keeps their attention'* (S14); *they liked the bug and the song!'* (S20) although again these teachers adapted the content according to their class needs. The teacher at S20 went on to say: *'Sometimes there was too much to use in one lesson (e.g. split digraphs), so we spread it across 2-3 days. We supplemented with other phonics resources such as Read Write Inc.'* The teaching programme was used less in Year 2 classes, seen as a little babyish and not at the appropriate level of challenge for most children in that age group: *'the level is not high enough for my more able group, so used more often as a starter or plenary'* (S4).

*Grammar and Spelling Bug*

Of the **13 teachers** surveyed, **three** did not use Grammar and Spelling Bug at all, whilst **six** used it **once a week**. The remaining **seven teachers** used it **twice a week.** Usage was reported to be much lower than all of the other Bug Club resources and materials. Those who used it were selective, such as using the games to reinforce class teaching alongside existing school materials: 'We s*elected aspects to address the needs of the class'* (S20). S12 school noted the change in emphasis this year, as the new assessment framework with a greater focus on grammar was introduced: '*we used Spelling Bug only, as Grammar was not so high profile last year. We made more use of Grammar Bug this year'*. In Phase one of the project, teachers had commented that the professional development for Grammar and Spelling Bug was less emphasised that other areas of the Bug Club suite of materials. It is possible that teachers felt insecure with its use as a teaching programme and that this may indicate the impact of the topics covered in the initial product training provided to the school.

*Online Reading World*

At home

**Twelve of the 13 teachers** reported that they used ORW for home reading on a regular basis. Often this was alongside print books which were not necessarily Bug Club books. S3 teacher, for example, explained that the school only ever sent home Oxford Reading Tree books, whilst expecting the children to use ORW two to three times a week in addition. The rationale for this seems to be more about resource issues than as a pedagogical decision. The range of usage varied across the 12 teachers who used ORW for home reading, with S20 teacher, for example, expecting children to access ORW every night, to the teacher from another school only expecting children to log on once a week. There was little differentiation in evidence, with most teachers expecting those children who had access at home to use the ORW as part of their home reading. However, teacher interviews from the case studies also identified teachers' concern about those children who did not have computer or on-line access, and this was replicated by the teachers of the most successful classes from Phase 1. The school which did not use ORW (S13) made good use of the printed material but the teacher cited technological reasons and her own ICT insecurity for reasons not to use ORW *'the Y2 classes use it more than I do – they have the log ins and everything. They do a lot more Bug Club than I do'.*

<u>In the Classroom</u>

When asked about the use of the ORW in the classroom, the picture of frequency of implementation was less consistent. Usage was infrequent, with three teachers saying they never used it in the classroom, seven teachers saying they only used it once a week. Generally, the ORW was used with the whole class, for shared reading or comprehension activities, and the use was not differentiated.

*Implementation of non-Bug Club materials*

**Eight of the 13** teachers reported not using any additional resources for guided reading but using a range of other resources across the literacy curriculum.  None of these 13 teachers used solely Bug Club materials. The teacher at S17 talked about integrating Bug Club guided reading within the Talk for Writing programme indicating that the Bug Club guided reading books were often used as part of teaching in other curriculum areas. The **remaining five teachers** supplemented Bug Club in some way. As well as to complement the schools phonics programme, such as Letters and Sounds or Read Write Inc predominately, as mentioned above, teachers also called on a variety of planning and support materials; those mentioned included Grammar for Writing (S20), Rising Stars (S3), Hamilton resources (S6). Whilst some schools only used Bug Club print readers for guided reading, others talked of supplementing with existing stock such as Rigby Star *'but only if not enough Bug Club'* (S4s) and Oxford Reading Tree, and of looking to widen the scope and range of fiction reading for more able readers.

Teachers adhered to curriculum planning documents in operation in the school, integrating the Bug Club materials alongside these expectations. The teacher at S3 also commented that he had many materials of his own devising that he also used and enjoyed this creative element of his work.

Data indicate that these teachers of successful classes were able to select materials as appropriate for their children, were creative in their use of the resources available to them, and would seek to source material to fill perceived gaps in provision. Bug Club did not conflict with this, and was well integrated into the teaching provision of these teachers.

***Patterns and Qualities of Implementation in classes with the highest reading gains***

There are features that are common to all of these teachers and how they are using and implementing the Bug Club in the classroom.  These features include both attitude and practice.

*High reading mileage as a goal of teaching*
All of the 13 teachers of classes with above average reading gains viewed both the amount of reading children undertook and the children's enjoyment of the reading[13] they did, as important. In many cases this was closely linked with enthusiasm and motivation: '*motivation, engagement and reading mileage definitely but also enthusiasm. They are more excited about reading'* (S6); *'and once you have got the interest of the children then it makes life easier because they are interested in reading'* (S1). Teachers felt it important to provide a wide range of reading with opportunity for all interest ranges to be addressed and that in this respect, mostly, Bug Club was successful: '*there was so many different types and genres, that there were plays, story books, non-fiction books something for everything'* (S17). Comments were made regarding the need to supplement books for the higher attaining children or the support required for lower ability children to access the reading materials, but in terms of reading mileage, these teachers perceived the important role Bug Club played: '*Yes, it is effective because it adds volume to what they are doing whilst being engaging and interesting to the child'* (S1).

Data also seem to indicate that these successful teachers were providing more opportunity for reading in their classroom, through their planning and providing children with access to books in a range of ways: *'I think the type of resources they are helps but the structure of it so you can use it every day. Reading every day has a great impact. It made a big difference to them. They have got more motivation for reading than ever before'* (S1)

*The pedagogical vision – literacy planning and teaching*
Teachers of the classes with the most successful outcomes talked of how their teaching adhered to wider school policy for reading. They were not 'going alone' but were working within a cohesive vision for the school, often as leaders of that vision. The teacher at S3 described it as a 'Power of Reading' school (based on the work of the Centre for Literacy in Primary Education (CLPE) in London), in which the school is seen as a reading

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[13] Arranging for frequent reading for pleasure and enjoyment.

environment.  A teacher at S12 reiterated the value of the whole school ethos: '*we create a nurturing environment, so that children can trust us and take risks'*.

The importance of working as a team was expressed in many of the interviews with the most successful teachers. Long and medium term planning seemed to be agreed at phase group level, with classroom teachers or year groups then responsible for the short-term planning: *'We meet with the phase team and discuss the outcomes of the general topic and then breakdown into each day's planning. So using the curriculum objectives as a starting point and then planning to give the structure that I described above of guided reading, phonics sessions, spelling and grammar sessions and home reading'* (S1); *'We have the long term plan, the medium plan and then I do a daily plan which is more flexible over the week. Each term there is a theme and I try to revolve all aspects around the theme. So this term is about habitats and we're looking at rainforests so there's lots of books that can be linked into that topic'* (S6).

As a result of the project, some schools had completely revised their method of planning to ensure maximum impact of the Bug Club materials. For those schools, the change in implementation happened at an opportune time as they were looking to improve pedagogy and practice in reading. It was something they had identified as a need and the materials supported that vision. For example, in trying to develop guided reading practice across the school, the teacher at S1 commented*: 'We changed our daily and weekly structure. So we had regular phonics slots and then guided reading could fit around that'* (S1).

Consistently throughout the interviews, teachers talked about reading as integral to wider curriculum planning, often topic-led and with a written outcome. Some (S17, for example) alluded to 'Talk for Writing (Pie Corbett's work) or Big Write (Ros Wilson) and how reading and writing were seen as having a reciprocal relationship. For some teachers, the curricular approach was a change they noted in their practice across the different phases of the project: *'I approached the books from a different point of view - the 'whole picture' and how reading is linked to writing.* (S9). Support for non-fiction topics was especially noted, with the range of resources available seen as supportive to practice. For example, when talking about PCMs, one teacher noted how they: *'offered insights into how best to use* [the books] *particularly in teaching a range of genres. I felt we were lacking in NF and certain types of books'* (S12). This indicates a school acknowledging gaps in its teaching provision and perceiving next steps for development.

Several schools noted how guided reading was integrated into the wider carousel of literacy activities as a change to previous practice, and that this had been supported by Bug Club: *'How guided reading is planned has changed owing to the wide range of materials; ORW, PCMs, home reading, etc.'* (S9); *'Most staff will deliver a similar model of as much guided reading as possible, a whole class story, at least one phonics and one spelling and grammar session a week and the other whole class literacy sessions'* (S14); *'Regular guided reading sessions is key, phonics bugs every day and the materials for that helps a lot, and daily reading is important I think. The structure in place so the children know they will be doing literacy every day'* (S1). Home reading remained a feature in all classrooms: *'they're expected to do some reading every night'* (S6). The S3 teacher commented that guided reading was more of a stand-alone activity outside of the wider curriculum planning and thematic work.

*Inclusive classrooms*
All teachers interviewed noted how they the Bug Club materials provided support the range of needs in their classrooms: *'Boys definitely seem to be more engaged than ever before. EAL groups like them too because they are so diverse'* (S6); *'Last year we found the boys struggled to engage with reading but this time they love the Bug Club books and enjoy reading them because of the superheroes and animals. The girls tend to like the range we have got like the fairies and animals too. It works well for the EAL children too although I did struggle to get them to read at home but they were definitely more engaged'* (S1). The carousel method of organization enabled teachers to utilize TA support especially for the lower ability children: *'All children benefit. The fact that the scheme begins at a low starting point is supportive for the lower ability children. Bug Club encourages independence for higher ability readers - they get to know the routine. The carousel of activities ensures every child reads with the teacher and TA during the week, and has an iPad session, along with supporting reading activities'* (S9).

However, teachers in these successful classrooms were selective about what they used, with some feeling that the very lowest attaining children needed more targeted support and simpler material at the very beginning stages of learning, by adapting the content of the PCMs, for example, or with additional support from teaching assistants: *'We use interventions for certain children and Bug Club is really useful for them. During the class, the TA works with all different groups but in the 1-2-1 interventions, she works with the less able'* (S6).

A few teachers expressed concern about challenge for the high ability readers, and these teachers were beginning to look outside Bug Club materials to supplement reading material for these children. In whatever ways the teachers adapted, supplemented or channelled the materials towards particular groups, there was agreement across those interviewed that the range of materials enabled access to all children: *'Each child, no matter what ability, will read at least twice a week'* (S17).

*Independent learning and differentiation*
All teachers interviewed placed high value on children as independent learners, and their planning and provision was devised to support the move to independence. Independence was seen as key to achieving successful learning outcomes: *'To begin with I would choose something lower than their level and they achieved success straight away and then gradually developed it as we went along. I would introduce the books and characters on the screen as a whole class activity so they got a thirst for it. They then would find it easier to navigate themselves'* (S6).

Differentiation was not just by outcome. Books and materials were deemed to be well matched to national expectations in offering support for lower attaining children. Teachers in this group recognised the learning needs of each of the children in their class and made provision accordingly*: 'Each child is completely different. Every child reads at least two times a week in school but there's a section of target readers, which is about six children, who read every single day. And there's a section of six children that will read every Monday and Wednesday and Friday, and then the higher ability children who also do read at home, it does coincide, will read Tuesday and Thursday. It's just so that no child throughout the week isn't reading'* (S17). Teachers in this group indicated that they were more confident to change and adapt their practice from one year to the next, according to the needs of their children. For example, the teacher at S12 commented that that she was using Phonics Bug more as a targeted intervention for the lower ability children to work with a TA.

The use of TAs working with those children struggling with literacy learning was a common theme occurring across the group. Teacher noted how planning was shared with the TAs, and that specific groups were identified to enable the TA to follow-through. However, there was a prevailing tendency for TAs to be assigned the lower groups and to lead on interventions for these children. One exception was at S3, where the teacher was clearly of the opinion that the lower attaining children were a shared responsibility and he took an equal role in providing support for those children in his class.

What is clear from data evidence is that the most successful teachers used the materials to support their planning for differentiation. The teachers knew their children through their assessment and observations and were able to select the materials and adapt them accordingly: *'Everything is pitched at the right level and we were constantly reviewing their abilities and progress. So it works for all'* (S1); *'Focusing the resources at the right children rather than the whole class; we are meeting their interests through the range of resources* (S12). The materials don't lead the learning provision, the teacher does.

*Fidelity, Consistency and Adaptation*

Teachers acknowledged that fidelity to the use of the materials and the consistency of the approach they established was important in their successful outcomes in the first two phases of the project: *'I think it was consistency and using all the resources. We went for it and did it consistently. We had the differentiated phonics groups through streaming and the consistency was there. We didn't drop off with our structure like we might have done other years'* (S14).

However, these successful teachers showed that they were prepared to adapt the materials as appropriate to work alongside their existing school policies rather than as a straitjacket of procedures to follow regardless. For example, the teacher at S12 used Phonics Bug alongside the school's phonics programme (Letters and Sounds) as supplementary support. This worked well for her. The planning and procedures schools already had in place easily accommodated the Bug Club approach: *'The flow of the activities provides depth of progress through building the work across the week'* (S9). Within a framework of consistency, they were prepared to be flexible according to need. The teachers in the classes with higher than average reading gains described how they used observation of children and formative assessment to adapt Bug Club materials to their class. S9T3  said that she did not view the books as a series to be used in the way that described in the Teacher Support materials saying "*I approach the books from a different point of view -  the 'whole picture' and how reading is linked to writing*".  She described how she used the Bug Club guided reading books in a carousel method of organization utilizing the TA to support children with lower attainment.  Observation and record-keeping during group and 1-1 reading allowed her to think about how to adapt the materials.  She talked about how her knowledge of book banding supported the children's progress. S4T6 also described a constant adaptation; "*I use the PCMs as a guide, but supplemented with my own material … I am more selective in choice of material."*

The need for evidence before adaptation was a consistent aspect when the teachers in classes with high reading gains discussed the constant adaptations they made. Charlotte said "*Reading is monitored everyday through guided reading, whole class reading and observations of these. Then I monitor what they are reading and question them to see if the understanding is there and look to progress them through the bands. … Then we review each half term about who* [TAs] *are working with most closely and who might need more or less support … I adapt all the resources and guidelines.*" Adaptation is done on the basis of ongoing assessment and in order to be effective teachers know that they need to adapt for the specific context at any given moment. As S17T2 said "*Each child is completely different*", and whilst Bug Club teacher support materials and PCMs are considered useful and provide some ideas, they are not used as they stand and progressions through the reading books is driven by professional knowledge and use of ongoing assessment.

*The 'noticing' teacher*

All teachers interviewed said that they used the school's own assessment and tracking policy. These were often commercially produced on-line software packages, such as Target Tracker. These school procedures took precedent over the Bug Club assessments, and generally teachers reported not using these: *'I sometimes have a look but I don't put anything on it. I have my own reports to use'* (S6).

Many talked of using a 'Learning Steps' approach. The teacher at S12, for example, talked at length about the assessment policy in her school: *'We use an online software package to track attainment. We are very practical using an assessment for learning approach - traffic lights system. We have guided reading target sheets and a comments folder. Learning is broken into 'I can ...' statements. Children know what their targets are and can take responsibility for their own learning'* (S12).

Assessment was not seen as a one-off. Rather, it was embedded into the planning cycles of long, medium and short-term planning. The teacher at S4 also followed a Learning Steps approach. She talked about how she evaluated progress across a lesson, observing and addressing needs of individual children, and then varying her teaching for those children from lesson to lesson. Regular child progress meetings occurred with the use of Target Tracker for longer term monitoring.

Teachers found the banded system for guided reading supported the assessment of progress: *'I can monitor their progress and give them books at their level'* (S14). Guided

reading practice provided them with opportunity to complete group assessments and to plan for subsequent lessons: *'I then add these to our school tracker online and to the APP which is assessing people child progress and updated half termly'* (S1). Teachers talked of the power of observation during guided reading and how knowledge of banding supported that tracking of progress: *'With reading, I make notes every day on their progress on fluency or phonetic ability or expression. I have key questions I ask them on inference of what AF* [Assessment Focus] *I'm using and assessing what they do and don't understand'* (S9).

Teachers used a range of assessment procedures in accordance with their schools' policy, using day to day observation to inform their planning of next steps based on where the children were in their current understanding. Book banding provided a progression for learning and assessment which teachers in this group valued and used confidently.

**Differences between teachers in classes with high reading gains and teachers in classes with low reading gains**

In order to explore any differences, Data relating to teachers in the Bug Club experiment schools (the schools that implemented Bug Club beginning in January 2015) from both baseline and A1 were needed.  Therefore, all teachers who had provided questionnaire responses at only one of baseline or A1 were removed from the potential population. 40 teachers' questionnaire responses remained.

Reading gains of the classes for all of these 40 teachers were divided into quartiles. The qualities of the highest quartile and the lowest quartile were explored for any identifiable differences. Each quartile contains 10 teachers and therefore 10 corresponding classes. Questionnaire data were drawn from A1 (July 2015) to explore differences between teachers in the high reading gains quartile and those in the low reading gains quartile.

*Experience*

Experience across the two groups (teachers of classes with the highest and lowest reading gains) was broadly similar, though the low reading gains group was slightly more experienced.  In both the high and low reading gains group, **four of the 10** teachers had 10 years' experience or more.

| Group/length of experience | 8-10 years | 6-7 years | 3-5 years | 1-2 years |
|---|---|---|---|---|
| **High reading gains group** | 5 | 1 | 2 | 2 |
| **Low reading gains group** | 5 | 2 | 1 | 2 |

*Table 19: Length of teaching experience of highest and lowest reading gains groups*

Experience would not appear to be a factor in creating the conditions for high reading gains.

*Year group taught*

**Nine of 10** teachers in the high reading gains group taught Y1 from baseline to A1, and **one of 10** teachers had a mixed age class (Y1 and 2).

In the low reading gains group half of the teachers (five) taught Y1 from baseline to A1, and half (five) taught Y2 from baseline to A1.

However, as previously mentioned, data from A3 demonstrated that the majority of the high reading gains teachers remained in this category across all the data collection points (A1, A2 and A3). They had frequently changed year group, so it is not possible to conclude that children in Y1 are more likely to achieve higher reading gains. This conclusion is supported by the fact that there are no significant differences in reading gains between Y1 and Y2 children (see RCT report).

*Reported reading mileage*

Teachers were asked to report on the reading mileage[14] of their class. Table 20 below shows that three classrooms in the high reading gains group had reports of high reading mileage, whilst only one classroom in the low reading gains group had high reading mileage. Some high reading gains classes do read less than five books a week; there is a slight difference in the proportion of children reading more than five books a week in

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[14] Reading mileage, or time spent reading, was measured using the number of books children typically read in an average week

school. There are more reports of high reading mileage happening in the high reading gains groups

| Children read more than 5 books a week at home | Strongly Agree | Agree | Neither agree nor disagree | Disagree | Strongly Disagree | Don't Know |
|---|---|---|---|---|---|---|
| HIGHEST GAINS | 1 teacher 10 % | 2 teachers 20% | 3 teachers 30% | 3 teachers 30% | 1 teacher 10% | 0 teacher |
| LOWEST GAINS | 0 teachers | 1 teacher 10% | 2 teachers 20% | 7 teachers 70% | 0 teacher | 0 teacher |

*Table 20: Reported reading mileage at school*

Teachers were then asked to report on reading mileage at home. **One** teacher in each group did not know how much children read at home (**one in 10 teachers**), suggesting that they did not use the Teacher reports of book completions on the ORW. **Three teachers of 10 in the high reading gains group** reported that their children read more than five books a week at home, whereas as **no teachers in the low reading gains group** reported that extent of home reading. There were **four of 10 teachers** in the high reading gains group that reported less than five books a week at home, whereas **five teachers of 10** in the low reading gains group report less than five books a week read at home.

Reports seem to indicate more reading going on at home in the high reading gains group.

| Children read more than 5 books a week at home | Strongly Agree | Agree | Neither agree nor disagreed | Disagree | Strongly Disagree | Don't Know |
|---|---|---|---|---|---|---|
| HIGHEST GAINS | 1 teacher 10 % | 2 teacher 10% | 2 teachers 20% | 3 teachers 30% | 1 teacher 10% | 1 teacher 10% |
| LOWEST GAINS | 0 teacher | 0 teacher | 4 teachers | 5 teachers | 0 teacher | 1 teacher |

| | | | 40% | 50% | | 10% |
|---|---|---|---|---|---|---|

*Table 21: Reported reading mileage at home*

Reports of parental engagement with the home-school reading programme were much higher in higher gains group.

| Children read more than 5 books a week at home | Strongly Agree | Agree | Neither agree nor disagree | Disagree | Strongly Disagree | Don't Know |
|---|---|---|---|---|---|---|
| HIGHEST GAINS | 1 teacher 10 % | 6 teachers 60% | 0 teachers | 2 teachers 20% | 1 teacher 10% | 0 teachers |
| LOWEST GAINS | 0 teachers | 1 10% | 2 teachers 20% | 7 teachers 70% | 0 teachers | 0 teachers |

*Table 22: Reported parental engagement with home reading*

The table above shows that seven of the classrooms in the high reading gains group reported children reading more than five books a week at home (agree or strongly agree). However, only one of the teachers in the low reading gains group reported that children read more than five books a week at home. This suggests that one of the differences between high reading gains classes and low reading gains classes is the success of the home reading strategy and engaging parents. This comparative success could include social factors, child factors and teacher factors.

*Use of support materials.*

Teachers were asked to report whether they regularly used the Teacher Support materials connected to a scheme or programme.

| Regular use of Teacher Support materials | Strongly Agree | Agree | Neither agree nor disagree | Disagree | Strongly Disagree |
|---|---|---|---|---|---|

| | | | | | |
|---|---|---|---|---|---|
| HIGHEST GAINS | 2 teachers 20 % | 2 teachers 20% | 1 teacher 10% | 3 teachers 30% | 2 teachers 20% |
| LOWEST GAINS | 1 teacher 10% | 8 teachers 80% | 1 teacher 10% | 0 | 0 |

*Table 23: reported use of Teacher Support Materials*

**Four of 10** teachers in the high reading gains group reported that they used Teacher Support materials regularly, whereas nine **of 10 teachers** in the low reading gains group indicated the same. More teachers in the low reading gains group routinely use the Teacher Support materials. This may link to an early finding that almost all of the 13 teachers with the highest reading gains (at points A1 and A2) adapted the Teacher Support materials rather than used them as they stood. This may indicate a greater degree of personalization to both class and individual in the high reading gains group.

*Confidence with the use of technology to support literacy learning*

Teachers were asked to respond to a statement regarding confidence when using technology to support literacy in the classroom (e.g. electronic texts, multimedia, tablets for guided reading).

| Confidence when using technology to support literacy in the classroom | Strongly Agree | Agree | Neither agree nor disagree | Disagree | Strongly Disagree | Don't Know |
|---|---|---|---|---|---|---|
| HIGHEST GAINS | 1 teacher 10 % | 5 teachers 50% | 1 teacher 10% | 2 teachers 20% | 1 teacher 10% | 0 teacher |
| LOWEST GAINS | 0 teachers | 6 teachers | 3 teachers | 1 teacher | 0 teacher | 0 teacher |

| | | 60% | 30% | 10% | | |
|---|---|---|---|---|---|---|

**Six of 10 teachers** in the high reading gains group felt confident with the use of multimedia to support literacy in their classroom and **six of 10 teachers** also felt confident in the low reading gains group.  There are more teachers in the high reading gains group that report they do not feel confident in the use of technology in the classroom (3 teachers). Reporting levels of confidence is likely to be unequal across a range of different personalities; one person's very confident is another's just about confident and it is not possible to compare what the reported confidences mean across the groups.  However, whilst the high reading gains group may appear to have reported lower levels of confidence, they also report the highest use of technology.  **Six of the 10** teachers in the high reading gains group report they regularly use technology to support literacy whereas just **three of 10 teachers** in the low reading gains group report regular use of technology.  Despite similar numbers of teachers in low and high gains groups reporting confidence levels with the use of technology, it would appear that classrooms with high reading gains are more likely to involve regular use of technology.  It may be that successful teachers are more able to be flexible and try out new approaches than less successful teachers.

*Differences in Bug Club usage between above average and average and below classes*

| | Above Average Reading Gains teachers | | | Average and below reading gains teachers | | |
|---|---|---|---|---|---|---|
| *Using Bug Club books for guided reading* | March 2015 (N=10) | October 2015 (N=9) | January 2016 (N=9) | March 2015 (N=60) | October 2015 (N=49) | January 2016 (N=46) |

| | | | | | | |
|---|---|---|---|---|---|---|
| Every Day | 5 | 4 | 6 | 23 | 13 | 16 |
| 2-3 times week | 5 | 3 | 3 | 20 | 16 | 22 |
| Once a week | 0 | 1 | 0 | 18 | 6 | 6 |
| Never | 0 | 1 | 0 | 9 | 14 | 2 |

*Table 24: Frequency of* Bug Club *guided reading books*

In order to explore whether usage patterns and frequencies might link to attainment in general, surveys of implementation were used to compare classes with above average gains and average and below gains (Table 24).  The implementation surveys used here as those returned by the 'experienced' Bug Club schools who started using Bug Club in January 2015.  Numbers of teachers in each of the groups (above average and average and below) varied over time as not every teacher returned the survey consistently over the study period.  Numbers remain more stable in the above average reading gains group.  Teachers were asked to report what they had used the previous week.  This isn't a detailed picture of usage, but it does provide an overview of what schools were using, month by month.

During interviews, the 13 teachers of classes with above average reading gains described how they planned explicitly to maintain high reading mileage.  This was a difference between high and average and below classrooms captured in the questionnaires.  Therefore, self-reports of usage were explored to see if the differences in aspiration and attitude between the high and average and below groups were reflected in usage.

In March 2015, schools had been implementing Bug Club for three months.  In the classes with above average reading gains, teachers used Bug Club print books for guided reading **daily in half of the classes**.  Whilst in classes with average or below reading gains, teaching of guided reading using Bug Club books on a daily basis is happening in fewer classrooms, **just over one in three**.

In October 2015, schools had been implementing Bug Club for nine months.  In classes with above average reading gains, guided reading using Bug Club books occurred daily in **just under half of the classrooms.**  In the survey for one week in October 2015, some teachers in this group did not report using Bug Club books for guided reading at all.  In average and below reading gains classes, daily guided reading using Bug Club print books occurs in **just under one in four classes.**

In January 2016, when schools had been implementing Bug Club for a year, **two in three above average reading gains classes** had daily guided reading sessions using Bug Club print books. In average and below reading gains classes, numbers of classes having daily guided reading using Bug Club books was slightly higher than in October 2015 **at one in three**. However **the proportion of classes implementing daily guided reading lessons using Bug Club print books remains lower in the average and below reading gains classes** in each of the three months sampled from the 18 months of implementation.

On this basis, it appears that **Bug Club print books are used less frequently and less consistently in classes with average and below reading gains.** However, usage and attainment were found not to correlate in the study undertaken at A1. So another explanation for difference might be consistency of use rather than frequency of use. For example, daily guided reading could be happening daily in average and below using other print books. For this to be the case, the frequency of using non-Bug Club materials would need to much higher in average and below reading gains classes than in the above average reading gains classes. This was not found to be the case. Both groups of teachers were found to use other materials consistently over the entire 18 months of the study.

| | Above Average Reading Gains teachers | Average and below reading gains teachers |
|---|---|---|
| *Using other print books for guided reading* | January 2016 (N=9) | January 2016 (N=46) |
| Every Day | 1 | 13 |
| 2-3 times week | 5 | 11 |
| Once a week | 0 | 11 |
| Never | 3 | 11 |

*Table 25: Using other resources to teach guided reading*

Table 25 above demonstrates that in **average and below reading gains classes, around half of the classes** are using other materials for guided reading every day. In above average reading gains classes, **usage of non-Bug Club resources for guided reading** happens on a **daily basis in over half of the** classrooms. Classrooms with average and below reading gains are not more frequently using more Bug Club materials. They are doing less guided reading. This strongly suggests that it is not the frequency or consistency of Bug Club usage in particular that sets the above average

reading gains group apart, but regular and consistent guided reading lessons.  It also suggests that it is not the consistency of use of Bug Club materials that is a feature of higher attaining classrooms, but access to daily opportunities to receive reading instruction at each child's reading attainment level as managed by guided reading methodology.

The surveys were then explored for differences in usage of the ORW for home reading.

| | Above Average Reading Gains teachers | | | Average and below reading gains teachers | | |
|---|---|---|---|---|---|---|
| *Using the Online Reading World for home reading* | March 2015 (N=10) | October 2015 (N=9) | January 2016 (N=9) | March 2015 (N=60) | October 2015 (N=49) | January 2016 (N=46) |
| Every Day | 2 | 2 | 1 | 7 | 7 | 7 |
| 2-3 times  week | 2 | 3 | 4 | 17 | 11 | 15 |
| Once a week | 1 | 1 | 1 | 12 | 6 | 9 |
| Never | 4 | 3 | 2 | 24 | 25 | 15 |

*Table 26: Using ORW for home reading*

In the above average gains classrooms, the number of classes not using ORW at all diminishes slightly, but the usage remains consistent across the 18 months of the study. Usage frequency also shows this pattern.  The table shows **a similar picture of frequency of usage in both groups of reading gains.**  However, here again above average classes are implementing home reading in other ways as well as ORW, resulting in far more reading happening in the above average reading gains classes.  **Above average reading gains classes are far more likely to be using other materials for home reading daily (one in three classes)** in addition to the use of ORW, whereas **average and below classes** are using other materials in addition to ORW in **around one in seven classrooms**.  This suggests that it is not the frequency of ORW that is influencing the greater reading gains but the frequency of home reading itself, whatever the materials used may be.

*Summary of Section findings*

- *The majority of classrooms with the highest reading gains (10 of 13) used Bug Club guided reading books every day. The frequency of use of online texts in the classroom was much lower.*
- *10 of 13 teachers in classes with the highest reading gains used Phonics Bug, though infrequently and to complement other resources and other phonics programmes (Read Write Inc and Letters and Sounds for example).*
- *11 of the 13 teachers in classes with the highest reading gains used Phonics Online as a complementary resource*
- *Use of the Grammar and Spelling materials were low in frequency.*
- *None of the teachers in classes with the highest reading gains used Bug Club only whereas many classrooms with lower reading gains did.*
- *Teacher experience was not a factor in creating environments where children attained high reading gains and as there was no advantage in being in a Y1 or a Y2 class, the age of the children was also not a factor.*
- *There is a higher frequency of reading at home reported in classes with the highest reading gains.*
- *Children were seven times more likely to read more than five books a week in the classes with the highest reading gains.*
- *Teachers in classes with the highest reading gains report greater success with parental engagement in home reading.*
- *Children in the highest gains group were twice as likely to use technology as part of their literacy provision.*
- *Teachers of classes with above average reading gains implement guided reading and home reading more frequently than teachers of average and below reading gains classes.  However, they do not use Bug Club materials more frequently, showing a high rate of usage of other materials.  The frequency of the pedagogy rather than the materials would seem to link to better reading gains.*

### 3. Patterns of change in usage across schools in general

In order to assess whether the patterns and frequencies of usage exhibited by the six case schools were more widespread, telephone interviews with 'experienced' and 'new' Bug Club schools not amongst the six case schools, were undertaken.  Eighty six teachers across 30 schools were approached.  21 teachers were interviewed, 10 from

'experienced Bug Club schools, 11 from 'new' Bug Club school.  Nine were teachers in Y1, 1 was a teachers in a mixed year group and 10 were teachers in Y2 classes. The table below shows the reported usage of the Bug Club materials at initial implementation and at the point of data collection, November 2016.  For the 'experienced Bug Club schools, initial implementation was in January 2015, for the 'new' Bug Club schools, initial implementation was in September 2015.

Table 27 below shows that four of the 21 teachers were consistent in their usage across the period of implementation.

| Pearson product/Ave usage | At initial implementation | | | | | | In November 2016 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Times a week | 0 | 1 | 2 | 3 | 4 | 5 | 0 | 1 | 2 | 3 | 4 | 5 |
| 2a. Bug Club Readers- print version | 1 | 1 | 1 | 3 | 4 | 11 | 0 | 1 | 0 | 2 | 7 | 11 |
| 2b. Bug Club Readers- online version | 3 | 8 | 6 | 2 | 1 | 1 | 5 | 9 | 2 | 3 | 1 | 1 |
| 2c. Phonics Bug- print version | 5 | 3 | 5 | 3 | 1 | 4 | 4 | 3 | 4 | 3 | 2 | 5 |
| 2d. Phonics Bug- online version | 8 | 7 | 2 | 2 | 0 | 2 | 9 | 6 | 3 | 1 | 0 | 2 |
| 2e. Whole Class phonics lessons on the whiteboard | 6 | 4 | 6 | 1 | 4 | 4 | 5 | 5 | 3 | 2 | 0 | 6 |
| 2f. Online Reading World In the classroom | 15 | 2 | 3 | 0 | 1 | 0 | 17 | 2 | 1 | 0 | 0 | 1 |
| 2g. Online Reading World For home reading | 4 | 4 | 8 | 3 | 2 | 0 | 7 | 8 | 2 | 2 | 0 | 2 |
| Spelling Bug | 10 | 5 | 5 | 1 | 0 | 0 | 12 | 3 | 5 | 1 | 0 | 0 |

*Table 27: Comparisons in usage of Bug Club*

Some materials were used with consistent frequency;

- Bug Club print reader (consistently used just over 4x a week)
- Phonics Bug print readers (consistently used just over 2 1/2 x a week)
- Phonics Bug online reader (consistently used just over once a week)

- Phonics online (consistently used around twice a week)
- Spelling Bug (consistently used less than once a week) with a small standard deviation, the mean usage score is more tightly distributed than other mean usage scores, showing that most of the teachers asked used it between 0-2 times a week at both points of data collection.

| Pearson product/Ave usage | At initial implementation | sd | Mode | Nov 2016 | sd | mode |
|---|---|---|---|---|---|---|
| *2a. Bug Club Readers- print version* | 4.0625 | 1.375 | 5 occurring 11 times | 4.333333 | 1.46 | 5 occurring 11 times |
| *2b. Bug Club Readers- online version* | 1.714286 | 1.4 | 1 occurring 8 times | 1.285714 | 1.28 | 1 occurring 9 times |
| *2c. Phonics Bug- print version* | 2.333333 | 1.86 | 0 and 2 occurring 5 times | 2.714286 | 1.81 | 5 occurring 5 times |
| *2d. Phonics Bug- online version* | 1.315789 | 1.54 | 0 occurring 8 times | 1.157895 | 1.55 | 0 occurring 9 times |
| *2e. Whole Class phonics lessons on the whiteboard* | 1.947368 | 2 | 0 and 2 occurring 6 times | 2.368421 | 1.80 | 5 occurring 5 times |
| *2f. Online Reading World In the classroom* | 0.315789 | 1.17 | 0 occurring 15 times | 0.35 | 1.08 | 0 occurring 17 times |
| *2g. Online Reading World For home reading* | 1.428571 | 1.53 | 2 occurring 8 times | 1.4 | 1.23 | 1 occurring 8 times |
| *2.h Spelling Bug* | 0.647059 | 0.99 | 0 occurring 10 times | 0.684211 | 0.96 | 0 occurring 12 times |

*Table 28: Mean usage of Bug Club materials in 'non-case study' schools*

Table 26 above shows that Bug Club print books for guided reading have the most frequent usage at both points. The online version of these texts are used for guided reading; they are most frequently used once a week at both points.

Usage of Phonics Bug hard copy books did increase drastically in a small number of cases, as demonstrated by the mode of 'five times a week' in November 2016, but this is not a general trend, as the mean and standard deviation demonstrate.

Phonics Bug online is the least used Bug Club resource, at both points.  Usage of Phonics online did increase drastically in a small number of cases, as demonstrated by the mode of 'five times a week' in November 2016, but this is not a general trend, as the mean and standard deviation demonstrate. This finding supports the finding that in schools who already have a phonics scheme in place at the point of adoption, usage of Phonics Online remains very low if it is used at all.

ORW is hardly used at all in the classroom, as demonstrated by the low mean usage of 0.35 times a week.  Usage of ORW for home reading is low at initial implementation, with a mode of twice a week to begin with and decreases. This decreases very slightly as demonstrated by the slightly lower mean usage. The large standard deviation shows a wide distribution of mean scores; this indicates that in some schools and classes, regular use of PRW for home reading is maintained.

Usage of Spelling Bug increases very slightly from 0.64 times a week, to 0.68 times a week.

The highest usage is consistently the Bug Club print copy books for guided reading.  This data supports the findings from the six case schools and would suggest that findings from the six case study schools can be tentatively generalised to other schools in the study.

| Pearson product/Ave usage | Rising | Falling | Same |
|---|---|---|---|
| a. Bug Club Readers- print version | 3 | 2 | 16 |
| b. Bug Club Readers-online version | 4 | 6 | 11 |
| c. Phonics Bug- print version | 4 | 2 | 15 |

| | | | |
|---|---|---|---|
| d. Phonics Bug-online version | 2 | 5 | 14 |
| e. Whole Class phonics lessons on the whiteboard | 4 | 3 | 14 |
| f. Online Reading World In the classroom | 2 | 3 | 6 |
| g. Online Reading World For home reading | 4 | 10 | 7 |
| h. Spelling Bug | 2 | 4 | 15 |

*Table 29: Direction for frequency of usage reported by 'non-case study' schools*

Table 29 above shows that some of the materials show a more dramatic fall in usage than others – rows b, d and g. These resources are shaded in grey. A clear fall in usage of ORW, Bug Club online texts and the Phonics Bug online is evident.  This general pattern is also seen in the usage patterns of the six case study schools.  The usage of Phonics Bug and Phonics Online does seem to be slightly more consistent in the 'non-case study' schools; it could be that by chance the six schools identified as having indicators of high motivation for Bug Club were schools that already had successful phonics programmes in place and therefore less likely to adopt phonics materials within the Bug Club resources.  The fall in usage is most pronounced in the case of the use of ORW at home.

Teachers were asked to reflect on the rationales for the changes in frequency of usage.

*Decreases in ORW usage*

S2T5 talked about how she "*tended to drift towards the hard books and away from the online because it was becoming a bit messy to organise between the two of us*". She didn't think that decreasing her usage of ORW had an impact on attainment, saying "*maybe the boys might have preferred to stay more online for the games and interaction but I don't think it was a big impact".*  S18T4 also found the functionality of managing it resulted in a decrease in usage; *This* [ORW] *was used a lot last year but was difficult to keep up with book allocation."* Lack of ease of use was also referred to in the response of S17T4. *"I think the children enjoyed using this but with 30 in my class it was tough to administer it all and deal with any parental issues, IT issues etc with using it. Some didn't have the access and some had less engaged parents and so on so it was a bit of a pain*

*to have to track it all, especially when I could just track their reading of the books. But the children did enjoy using the online parts, especially some of the boys."* Schools new to Bug Club also became dissatisfied with having to allocate books as S26T1 said; *"I wanted to keep this going throughout the year because I think it is a great concept but it eventually tailed off because I had other things I had to do with them and couldn't keep up with allocating and tracking their home reading online. It was easier to give them a book."*

One teacher of the 21 talked about the changing policy context*; S9T5 "We stopped using the online books as the year went on and after Christmas for different reasons but mostly because the SATs had to be sat in a specific week in May so the prep for that was quite full on. In the past we had the flexibility to sit them when we wanted and could even go until the end of June. It was all a bit more condensed this time around and so the online books became quite low priority.* She didn't feel that decrease in usage had had an impact *and said "they tended to achieve as expected on their SATs. I don't think reading less online would change that."* Surprisingly, this teacher was the only one of 21 that responded to the question about why usage had changed by referring to the specific year, with the five other teachers who mentioned SATs referring to the general need to focus on preparing Y2 children for SATs and how this occurred every year and therefore, usage of ORW would decrease through the year in Y2 every year as a matter of course.

S21T1 reflected that usage would fluctuate from year to year as the development focus for the school changed; *"This probably dropped off over the year and certainly less in the second year. I think when it was new we all got on board with it straight away but the second year seemed to have less of a literacy focus and more of a numeracy focus so less reading was taking place at home, still a lot but mostly with the hard books themselves."*

S28T1 referred to her perception that the children's motivation was not sustained; *"We found that the children were reading less when they had the online books. So we've stopped allocating in the iPad for children, very occasionally use them for story time or on the board at the end of the day. We felt that our children spend a lot of time at home on iPads and XBoxes. Th7ey wanted something a little bit different, they use the iPad all the time so it has lost the novelty factor."* S27T1 talked about how the decrease in motivation happened within nine months of Bug Club implementation. *"I am probably using this slightly less this year and I found I used it less and less as the year went on last year. I guess I think they can get enough reading without logging on to this and going through the process of remembering details, allocating the books and so on. Impact*

*none, get reading in other ways."* This supports the idea of an initial increase in motivation and usage but that this begins to decrease over time and reflects the pattern seen in experienced Bug Club schools and illustrated in Figure 1.

*Increases in Usage*

However, some schools reported that use of ORW had increased. S19T4 said; "*We really started to see the benefits of it as we got used to it and started to use it more. We found a huge improvement in their attainment in reading."*

S29T1 talked about how having a strategy to build the children's motivation had resulted in increased usage; "*We only set it up at the start of this year. We've used incentives to get the children to log on, so now they are more keen to go on every week."* For S19T4 talked about how a school policy to reduce homework had resulted in increased usage of ORW; "*We have decided to cut back on the written homework and make it more online based. Bug Club has been a big part of that. We encourage children to do 10-15 minutes a night. Every day the teachers are checking who was online. Parents have to sign a form to say that they have been on."*

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**Summary of Section Findings**

- *Bug Club print reader were consistently used on average just over 4 times a week, with Phonics Bug print readers being consistently used just over 2 1/2 times a week, Phonics Bug online reader just over once a week on average, Phonics online, around twice a week on average and Spelling Bug less than once a week on average.*

- *Bug Club print books for guided reading have the most frequent usage at both initial implementation and point of data collection in November 2016. Phonics Bug online is the least used Bug Club resource, at both points.*

- *Usage of Phonics Online reported in the telephone interviews with 21 teachers did increase drastically in a small number of cases. In schools who already have a phonics scheme in place at the point of adoption, usage of Phonics Online remains very low if it is used at all.*

- *Usage of Spelling Bug increases very slightly from 0.64 times a week, to 0.68 times a week, most commonly to support teacher knowledge.*

- *ORW is hardly used at all in the classroom. This is demonstrated by the low mean usage of 0.35 times a week.*
- *The fall in usage is most pronounced in the case of the use of ORW at home. Usage of ORW for home reading is low at initial implementation, with a mode of twice a week to begin with and decreases.*
- *The highest usage reported across surveys, interviews and telephone interviews is consistently the Bug Club print copy books for guided reading.*
- *Usage of ORW, online versions of both Phonics Bug and Bug Club books for guided reading decline.*
- *Rationales for decrease were given as allocation of books being too cumbersome to manage on a day-to-day basis and a perceived fall in parent and child motivation.*
- *A very small number of teachers may have made unique decisions about decreasing Bug Club usage due to the new curriculum and assessment arrangements, changes in usage across the year represent the pattern that occurs annually in the ways that schools manage provision for preparing for SATs in Year 2.*
- *None of the 21 teachers felt that there had been a negative impact on the children's attainment in either the InCas reading test or assessments more generally sue to their decreased usage of the resources.*

### 4. Child characteristics and school environments of the children with the highest and lowest readings gains

After five months of usage, use of Bug Club had made a highly statistically significant impact on children' reading, vocabulary and spelling performance, as evidenced by the InCAS standardised reading measure and all subscales (Table 30). Children in the Bug Club schools made 1.65 more points progress on the standardised reading measure than children in the control schools, a small but highly significant effect. The effect on spelling might be anticipated at Key Stage 1, where spelling is very strongly influenced by phonics skills.

| Test | Bug Club children average advantage gains v control children | Statistical significance | Effect size (Cohen's d) |
|---|---|---|---|
| Reading standardised | 1.65 standardised points | Yes | .11 (small effect) |

| Reading sub-tests | | | |
|---|---|---|---|
| Word recognition | 1 month | Yes | .06 (small effect) |
| Word decoding | 3 months | Yes | .13 (small effect) |
| Comprehensio n | 2 months | Yes | .06 (small effect) |
| Spelling | 3 months | Yes | .15 (small effect) |
| Picture vocabulary | 1.5 months | Yes | .08 (small effect) |

*Table 30: Summary of findings, comparing Bug Club and control children at on literacy outcomes*

300 children were taught across the six case study schools between baseline and A1. Child attainment data collected at A1 were analysed to find the highest and lowest reading gains score. Data for children whose attainment fell into the highest 20% and the lowest 20% were explored for child characteristics and the characteristic of their school environment, and teacher attitude and practice.

S1 had the highest percentage of highest reading gains, with **20 of the 60 children (33.33%)**. **S6 (17 of 60 children; 28.33%)** and S3 (**9 of 60 children; 15%)** were also well represented in the highest achieving group. The lowest representation of children in the high reading gains group was S7 with **three of 60 children (5%).**

S1 also had the highest proportion of children in the lowest attaining group **(13 of 60 children; 21.66%)** closely followed by S9 which had **12 of 60 children (20%)** of the lowest attaining children from the six case study schools. S3 had the lowest number of children in the lowest 20% of reading gains scores with **8 of 60 children (13.3%)** of the number of children in this category.

| | Highest representation | | | | Lowest representation | |
|---|---|---|---|---|---|---|
| Representation in the **highest** 20% of reading gains scores in rank order | S1 (33.33%) | S6 (28.33%) | S3 (15%) | S4 (11.66%) | S9 (6.66%) | S7 (5%) |
| Representation in the **lowest** 20% of reading gains scores in rank order | S1 (21.66%) | S9 (20%) | S6 (16.66%) | S7 (15.3%) | S4 (15%) | S3 (13.3%) |

*Table 31: Schools' representation in the highest and lowest 20% of reading gains scores.*

*English as an Additional language at School level*

The school proportion of English as Additional Language (EAL) children was used to explore how many high reading gains scores children represented the highest and lowest 20% of scores

| EAL school scores from highest to lowest | S1 | S6 | S3 | S4 | S9 | S7 |
|---|---|---|---|---|---|---|
| **% of EAL children** | 5.7 | 75.00 | 19.4 | 1.5 | 26.9 | 2.5 |
| **Ranking for % EAL** | 4th | 1st | 3rd | 6th | 2nd | 5th |
| **Ranking for highest reading scores representation (N=6)** | 1st | 2nd | 3rd | 4th | 5th | 6th |
| **Ranking for lowest reading scores representation (N=6)** | 1st | 3rd | 6th | 5th | 2nd | 4th |

*Table 32: Schools' % of EAL children alongside representation in the highest and lowest 20% of reading gains scores.*

The table above suggests that the proportion of EAL children cannot be used to predict a school's reading gains scores.  The schools with **the highest proportion** of EAL children (S6) had the **2nd highest representation in reading gain scores** amongst the six case study schools and sat at 3rd in the percentage of lowest reading gain scores.  One particular school did have both a large representation in the lowest reading gain scores and a high percentage of EAL children (**S9, 26.9/**2nd EAL; **12 of 60 children; 20%).** However, the school with the **lowest representation in the highest 20**% of reading gains (**S7, at three of 60 children; 5% of high reading gains)** and just moderate representation in the lowest reading gains scores (4th at 15.3%) has only 2.5% of EAL children.

The finding that EAL status is not an over represented characteristic in the low reading gains group is supported by the views expressed by teachers in the six case study schools.  In reviewing the interview data from these teachers, the approach taken seems to be that they addressed the needs of all children through differentiated teaching and support rather than in distinct categories. This inclusive view is evident across the data set. One of the teachers in S1 used all the elements for all children in her class, except

Phonics Bug for her highest ability group. S3 reported using all elements of Bug Club with all groups of children as appropriate, differentiated according to attainment (for example Phonics Bug was only used with lower attaining children), teaching input and access. Generally, teachers would talk about differentiation for the higher or lower attaining children in their classes rather than about specific groups such as EAL learners. One exception was the Literacy Coordinator at S6, who mentioned provision for EAL learners specifically whilst highlighting the school's inclusivity: *"EAL children have to start a bit lower than others and there are some books without words that are good for them to start on. The animated comics are very good because it appeals to a wider cultural range. We have very few white British children here so it is important we offer things to appeal to all".*

Teachers perceived that the ORW had features which could help redress any disadvantages in coming from a home where reading in English might not be supported. The read-aloud function was valued as a support for home reading where parents may be speaking a language other than English: *'it is good for EAL children because they don't need to rely on parents to be able to read'* (S6T4).

*School measures of disadvantage*

Measures of child disadvantage echo the pattern seen for proportion of EAL children. The Free School Meals indicator (FSM) [15]was used when exploring school characteristics. The two schools with the lowest FSM indicator (S7 and S4) did not have the greatest proportion of high reading gains score, being 6th and 4th respectively.

| FSM school scores | S1 | S6 | S3 | S4 | S9 | S7 |
|---|---|---|---|---|---|---|
| FSM score | 19.50 | 26.00 | 22.50 | 4.90 | 33.40 | 11.70 |
|  | 4th | 2nd | 3rd | 6th | 1st | 5th |

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[15] FSM was provided by schools as an indicator for disadvantage across the whole school. Overall Pupil Premium numbers were not available.

| Ranking for % FSM | | | | | | |
|---|---|---|---|---|---|---|
| Ranking for highest reading scores representati on (N=6) | 1st | 2nd | 3rd | 4th | 5th | 6th |
| Ranking for lowest reading scores representati on (N=6) | 1st | 3rd | 6th | 5th | 2nd | 4th |

*Table 33: Schools' % of EAL children alongside representation in the highest and lowest 20% of reading gains scores.*

Some schools with a high FSM score did have high representation in the lowest attaining schools (S9) but some schools appear to be successful in reversing the risk of low attainment, for example S6 had the 2nd highest FSM score but was also 2nd in the ranking of representation of high reading gains.  S3 also seemed to be successful at overcoming disadvantage as they had a relatively high FSM score and relatively high representation in the high reading gains group.

As with EAL, there was very little comment from teachers about children eligible for FSM specifically. The head teacher of S4 school felt this did not apply to their intake, and most other teachers distinguished groups in relation to measures taken to differentiate for higher and lower ability children, and for gender. There was a perceived link to the home environment, for example*: 'It does depend on their background and how much support they get at home'* (S6T4, Y1 Teacher) but no teacher specifically called upon children eligible for FSM as a singular group within the project. Again, it seems that differentiation according to attainment was how these teachers addressed the needs of their children, rather than identifying disadvantage as a distinct child group for which there.

*English as an Additional language and Pupil Premium at child level*

Indicators at the child level were explored to see if the characteristics of the highest and lowest reading gains groups had different characteristics. In the highest reading gains scores group, **44 of 60 children (73.33%)** were English first language children, with just **16 of 60 children** learning English as an additional language.

**47 of 60 children (78.33%)** had no label of disadvantage, leaving just **13 of 60 children** in the highest 20% of scores identified as receiving Pupil Premium. [16]

It would seem that the combination of growing up in poverty and having English as an additional language make it less likely that a child will appear in the highest 20% of reading gain scores, since **around 22% and 26%** of children in the high reading gains group are identified as growing up in disadvantage or learning English as an additional language respectively.

Just **5 of 60 children (8.33%)** in the highest 20% of reading gains score are identified as *both* growing up in disadvantage *and* learning English as an additional language respectively, less than half the chance of being in the top 20% than EAL or disadvantage alone.  It may be that these two characteristics act as a double deficit to achievement.

*Gender*

Of the **300 children** across the six case study schools, there were data from **151 boys, (50.33%)** and **149 girls (49.77%).**

**24 of 60 girls** had reading gain scores in the highest 20%.  This represented **16.10% of the total attainment data for girls i**n the case study schools and **40% of the highest 20%** of reading gain scores.

**36 of 60 boys** had reading gain scores in the highest 20%.  This represented **23.84 % of the total attainment for boys** in the case study schools and **60% of the highest 20%** of reading gain scores.

**27 girls of 60 children** had reading gain scores in the lowest 20%.  This represented **18.12% of the total attainment data for girls** in the case study schools and **45% of the lowest 20% of reading gain scores.**

**33 boys of 60 children** had reading gain scores in the lowest 20%.  This represented 21.85 % **of the total attainment data for boys** in the case study schools and **55% of the highest 20% of reading gain scores**.

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[16] At the individual child level, schools provided information as to whether the child was in receipt of Pupil Premium

Fewer girls fell into the highest and lowest bands of gain scores with **51 girls' of 300 children (17%)** gains scores into the extremes (highest or lowest 20% of reading gains scores), as opposed to **69 boys' of 300 children (23%)** falling into the highest or lowest 20% of reading gains scores.

The slight over representation of boys in the highest reading gains group is a surprising finding. It may link to teacher perceptions that Bug Club is particularly effective at motivating boys.  This is a tentative interpretation since the characteristics of the 300 children in the six case study schools only have been explored for school and characteristics.

*Year Group*

**214 of 300 children** in the six case study schools exceeded reading gains commensurate with the rate of maturation i.e. greater than a gain score of 0.  **112 children were in Y1 and 112 in Y2.**  There is therefore no difference in the numbers of Y1 and Y2 children exceeding age expected progress in the six case study schools.

There is however a very small difference in the numbers of children in each year group in the highest and lowest reading gains group.

In the 20% of highest reading gains group, **37 of 60 children (61.66%) were in Y1** and **23 of 60 children (38.33%)** were in Y2.

In the 20% of lowest reading gains group, **29 of 60 children (48.33%)** were in Y1 and **31 of 60 children (51.66**%) were in Y2.

Even though the reading gain score is calculated from each individual child's starting point, it would seem that Y1 children achieve greater reading gains slightly more frequently than Y2 children.  Y2 children are represented slightly more highly in the lowest 20% of reading gains group.  This would fit with the huge range of literature documenting that the gap in literacy attainment begins to emerge by the chronological age of six and widens as children' chronological age increases (Burroughs-Lange & Ince, 2013).

*Reading Habits*

Data gathered online at A1 and A2 were explored to link attainment with reported reading habits.

In the 20% of the highest reading gains group, **46 of 60 children (76.66%)** responded that they had read a book in the last week.  In the 20% of the lowest reading gains group, **46 of 60 children (76.66%)** also said that they had read a book in the last week.

The responses are self-reports and may not reflect the actual reading habits of the child, but their sensitivity to the social desirability of their response. In addition, given that all of the 60 children in both groups would have been in school in the previous week, they are almost certain to have read a book in the last week.  The surprising result here is that just under 14% of children in each group said they hadn't read a book in the last week, note the lack of difference between the 2 groups.

Children were also asked to describe the frequency of the reading they undertook at home.

| | Almost never | About once a month | About once a week | Almost every day | No response |
|---|---|---|---|---|---|
| **20% of highest reading gains group**<br><br>**N= 60** | 5 | 2 | 13 | 33 | 7 |
| **20% of lowest reading gains group**<br><br>**N= 60** | 4 | 4 | 11 | 36 | 5 |

*Table 34: Home reading frequency for the highest and lowest 20% of reading gains scores*

Children in the lowest 20% of reading gains group reported higher frequency of reading at home than children in the highest 20% of reading gains group.  This needs to be interpreted with caution.  Self-reports of range of reading were also very similar across the two groups.  As mentioned above, the responses will have been influenced by factors other than actual reading frequency; social desirability, online questionnaire completion and memory for example.

***Summary of section findings***

- *Some schools countered the effects of FSM and EAL indicators at the school level (i.e. when taking school and class means into account), but some were less successful.*
- *Both EAL children and FSM children are over represented in the 20% of the lowest reading gains groups*
- *Being both EAL and Pupil Premium makes being in the high gains group less likely.*
- *Boys are slightly over represented in both the highest and lowest reading gains groups.*
- *There was no difference in reported reading frequency between the highest and lowest reading gains groups.*
- *Boys were slightly over represented in both the highest and lowest reading gains groups.*

5. ***The Relationship between usage and attainment***

The nature of the relationship between usage and attainment is an important thing to understand.  In the sections above, reported and perceived usage has been explored in order to understand what happens in the classrooms with the highest reading gains and how that might differ from classrooms with the lowest reading gains.  The nature of motivation and how far it has been sustained through the period of the study has also been explored.  When the study began, it was a stated goal for Pearson to be able to explore the data held by the online platform and find out whether child use of the ORW was sustained, how often teachers allocated books and how often teacher reports of child usage were accessed.  However, the nature of the data created by the online platform does not allow exploration to be granular (i.e. to look at the smallest elements of usage, the level of allocation and access by each individual child).  The online platform collects 'completions' alone, with no data pertaining to teacher or child activity recorded on the platform.

'Completion' refers to a book being read in its entirety; this includes completing all the quizzes and clicking the smiley face evaluation at the end of the book. However, this term is potentially misleading. For example, it may be that the child read the complete book and worked through all the quizzes but did not click on the evaluation; the data

capturing process would not capture that so the book would be deemed 'incomplete'. Y2 children's comments about the quizzes interrupting the flow of their reading would support this interpretation. It may be that the child registered a completion but got all of the quizzes incorrect. The data capturing process would also not capture that, though a teacher would be able to see that degree of granularity for his/her own class.

'Completion' does not provide insight into frequency and pattern of teacher allocation, nor does it provide any information about where these completions took place - home or school. It cannot illuminate the many intra-school differences the quantitative statistics demonstrate. It merely shows the completions over a school year for a given year group and a school. The periods of time involved in the data capture are also not comparable; Phase 1 comprised January to July 2015 (two terms). Phases 2 and 3 are a full academic year of 9 months, September 2015 to July 2016 (three terms) (see Table 4, data collection timetable)

The completions data supports child, parent and teacher reports in the six case schools of less ORW usage during Phase 2 and Phase 3. It also evidences that this diminishing usage is the trend in most schools. The total usage during phase 1 (2 terms) was **80,057,** giving **an approximate usage of 40,000** per term. Three terms of completions would be **estimated to amount to 120,000**; the actual completions amounted to **99,574,** and so represent a decrease in completions in real terms. The amount of **completions are 17% less** than would be expected had the frequency of completions been maintained. Considering that in Phase 1, both teachers and parents were just becoming familiar with using the ORW, an expectation could be that completions would rise from the point of initial engagement, particularly as many of the schools who began implementation in January 2015 stated that they intended to develop and increase home-school reading links via the ORW.

Completions data can demonstrate some aspects of the relationship between use of the ORW and attainment. The following sections consider the completions data from different perspectives, giving different insights.

1. *A child's experience across the five terms of the study (January 2015 to July 2016)*

By presenting the completion data disaggregated by year, a child's experience moving from Y1 to Y2 in each of the schools, can be explored. The columns highlighted yellow show the same group of children as they move from Y1 to Y2. So completions can be

seen by child cohort and provide a sense of what they received in terms of access to ORW.

In **six of 21 schools (marked \*)** that started using Bug Club reading in January 2015, completions for this cohort were fewer in 2014-2015, even though the period of time was less (2 terms in 2014-15; 3 terms in 2015/6).  In **five of 21** schools (marked ˚) completions for this cohort remained at roughly the same number, or slightly more.  In real terms, this represents a decrease in usage because completion data collected in the academic year 2014-15 covered just two terms, whilst data collected in academic year 2015-16 covered three terms.  Therefore, in **11 of 21 schools,** there was a **marked decrease** in completions from Phase 1 to Phase 2. In **10 of the 21** schools, there was an increase in the number of completions for this child cohort as they move from Y1 to Y2. This was a real increase in all of these 10 schools.   The completion data show that just under half of the children across 21 schools experienced a marked decrease in the times that they read an entire book and complete all the quizzes.

| Academic year | 2014-15 | | | 2015-16 | | | |
|---|---|---|---|---|---|---|---|
| Year Group | 1 | 2 | Total for scholatic year 14-15 | 1 | 2 | Total for scholastic year 15-16 | TOTAL COMPLETIONS |
| School | A | B | C | D | E | F | |
| S6* | 2634 | 972 | 3606 | 1625 | 157 | 1782 | 5388 |
| S11* | 152 | 469 | 621 | 0 | 0 | 0 | 621 |
| S12* | 46 | 14 | 60 | 0 | 0 | 0 | 60 |
| S9 | 3827 | 3568 | 7395 | 1966 | 3999 | 5965 | 13360 |
| S13˚ | 75 | 1062 | 1137 | 30 | 333 | 363 | 1500 |
| S14 ˚ | 378 | 172 | 550 | 5669 | 11875 | 17544 | 18094 |
| S2˚ | 95 | 1035 | 1130 | 3 | 235 | 238 | 1368 |
| S15˚ | 101 | 168 | 267 | 765 | 1360 | 2125 | 2394 |
| S5 ~ | 1853 | 7585 | 9438 | 1876 | 6834 | 8710 | 18148 |
| S16˚ | 1771 | 1029 | 1800 | 5466 | 5195 | 10661 | 13461 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **S4** | 55 | 870 | 925 | 1774 | 3029 | 4830 | 5728 |
| **S17*** | 356 | 994 | 1350 | 20 | 75 | 95 | 1445 |
| **S10*** | 748 | 508 | 1256 | 93 | 0 | 93 | 1349 |
| **S18 ~** | 274 | 7406 | 7680 | 608 | 2485 | 3093 | 10773 |
| **S3 *** | 9572 | 27201 | 36773 | 4672 | 3948 | 8620 | 45393 |
| **S9˚** | 3459 | 14402 | 17861 | 2595 | 8210 | 10805 | 28666 |
| **S1** | 441 | 1011 | 1452 | 1721 | 421 | 2412 | 3594 |
| **S20˚** | 8 | 462 | 470 | 34 | 210 | 244 | 714 |
| **S7˜** | 766 | 2368 | 3134 | 2818 | 8039 | 10857 | 13991 |
| **S21˜** | 692 | 516 | 1208 | 4664 | 2684 | 7348 | 8556 |
| **S8˚** | 487 | 5466 | 5953 | 905 | 3181 | 4086 | 10039 |
| | **27790** | **77278** | **80057** | **37304** | **62270** | **99574** | **204642** |

Table 35: Completions for Children as they move from Y1 to Y2

2. *Total completions across the 21 schools that began to implement Bug Club in January 2015*

The total completions for each school is presented in columns C and F in the table above.  Whilst the mean of completions for Phase 1(the academic year 2014-15) is 4955.524, the range is from 0 to 36,773 (see Table 35 above).  This demonstrates clearly that there was a great deal of inter-school variation for ORW usage during the period of initial engagement.  This remained true during the three terms of the 2015-16 school academic year (a mean of 4755.762; range of 0 to 17,544, see Table 35 above).  The range for 2015-16 is much smaller, with a lower upper limit.  This again indicates a decrease in completions across the study period.  This finding supports the interpretation that the patterns of usage seen in the six case study schools are broadly similar to those seen more widely; many schools cease to use ORW altogether, for others it seems to be infrequent. But some schools continue, and even increase their use of ORW.  This increase is seen however in less than half of the 21 the schools.

3. *Range of ORW completions across the 21 schools*

By looking at the annual completions (column C and F in Table 35 above) the variation in school use is thrown into focus.  Two of the 21 schools had notably low completions in 2014-15 and dropped to no completions in 2015-16 (S12 and S11).  For some schools, the total completions across the school remains broadly the same for both 2014-15 (2

terms) and 2015-16 (three terms).  For these schools, some usage appears to continue into Phases 2 and 3 but with less intensity than during Phase 1.  This is the case for S5 and S8.    For other schools, there is a slight decrease in total completions, representing a more marked decrease in real terms.  This is the pattern seen in S6, S9, S10, S17 and S20.  For some schools, there is a sharp decrease in completions, which in real terms will have been a considerable change to what was happening at home and at school in these schools (S13, S2, S3, S18 and S19).  For others, there was an increase that represented number of completions being sustained when one considers the two terms/ three terms difference (S1).  For a small number of schools, the increase in completions will have resulted in greater usage on a day to day basis even when the difference in time period is taken into consideration (S14, S18, S16, S4, S7 and S21).

The table below presents the number of schools that fit into each pattern of usage.

| Pattern of usage | Low completions dropping to nothing | Very marked decrease | Marked decrease | Slight decrease | Broadly the same | Substantial increase |
|---|---|---|---|---|---|---|
| Total schools = 21 | 2 | 5 | 5 | 2 | 1 | 6 |

Table 36: Patterns of completions across the 21 schools

This would suggest that the initial engagement patterns when first beginning to implement ORW, whilst not the only factor in continued usage, do have a part to play in sustaining the implementation of ORW.  Of the **15 schools** who showed low completions less than the mean during 2014-15, **just one third (5 schools)** reversed that trend to exceed the mean in 2015-16.  This suggests that if the school do not get off to a good start with implementing ORW, it is very hard to overcome that poor start at a later date.

*4.    The possible relationship between ORW completion and attainment.*
One quarter of all the teachers in the 21 schools that began using Bug Club in January 2015 were identified as teachers with higher than average reading gains.  Thirteen of these teachers were interviewed.  Nine of them were teachers of Y1 classes, one was a teacher of a mixed Y1/Y2 class (S1). One teacher went on to teach Y2 in 2015-16 (S3). By looking at the schools that these 13 teachers were located in, the existence of a

possible relationship between book completions and high attainment of a particular year group class becomes clearer to locate.

| Academic year | 2014-15 | | 2015-16 | | High attaining teacher? |
|---|---|---|---|---|---|
| Year Group | **1** | **2** | **1** | **2** | |
| *S6* | 2634 | | 1625 | | ✓ |
| *S12* | 46 | | 0 | | ✓ (2 teachers) |
| *S9* | 3827 | | 1966 | | ✓ |
| *S13* | 75 | | 30 | | ✓ |
| *S5* ˜ | 1853 | | 1876 | | ✓ |
| *S4* * | 55 | | 1774 | | ✓ |
| *S17* | 356 | | 20 | | ✓ |
| *S3* | 9572 | | | 3948 | ✓ |
| *S1* * | 441 | 1011 | 1721 | 421 | ✓ (2 teachers) |
| *S20* | 8 | | 34 | | ✓ |

The table shows the number of completions for the cohorts that demonstrated high reading gains at A1 and A2. These classes are not the only classes that had high reading gains as only 13 of 16 teachers with reading gains above the mean in the 21 experienced Bug Club schools agreed to be interviewed.  However, the data in Table 37 above does show that for 10 of these 13 teachers of classes with high reading gains, the completion rate went down from 2014-15 to 2015-2016.  As explained previously, since there were more school terms included in this study during 2015-16, this represents in most cases a large decrease in real terms. The two teachers whose classes showed higher completions are marked with a *.  The one teacher whose classes had the same completion frequency, and therefore representing a medium decrease in completions frequency is marked with a˜.

The only point at which completions were more than the mean completion for the 21 schools was for 2014-15 for S9.  Whilst book completion and usage cannot be taken to represent exactly the same thing, it is clear that completions do not correlate with high reading attainment.

In order to offer a more complete exploration of the link between usage patterns, usage frequency and child attainment, the platform would need to capture the following aspects of usage for each school:

- Child linked to specific class and year group
- Frequency of allocations for each child, for each term
- Identity of allocation (i.e. fiction, non-fiction, Phonics Bug) made by the teacher for each child, for each term
- Identity of allocation (i.e. fiction, non-fiction, Phonics Bug) for each child, for each term
- Frequency of teacher access to reports of usage for each child, for each term
- Frequency of access leading to non-completion for each child, for each term
- Frequency of access leading to completion, for each child, for each term
- The location of each access point, home or school, for each child, for each term.

Without this range of data, it is not possible to explore with any greater clarity possible relationships between ORW usage and child attainment.  This will be an important action for Pearson if they wish to make claims regarding this.  The data that was captured would appear to indicate that there is no positive direction of influence of completion on attainment.  There is a possibility, although unlikely, that large numbers of children used

the ORW without completing the book and the quizzes, but without improvements to the data capture offered by the online platform, it is not possible to conclude any further than the above.

*Summary of Section Findings*

- *Data created by the online platform does not allow exploration to be granular (i.e. look at the smallest elements of usage, the level of allocation and access by each individual child). The online platform collects 'completions' alone, with no data pertaining to teacher activity recorded on the platform.*
- *In 11 of 21 experienced Bug Club schools there was a marked difference in completion.*
- *Of the 15 schools who showed low completions less than the mean during 2014-15, just one third (5 schools) reversed that trend to exceed the mean in 2015-16. This suggests that if the school do not get off to a good start with implementing ORW, it is very hard to overcome that poor start at a later date.*
- *Patterns of completion seen across the 21 'experienced' Bug Club schools support the findings in the six case study schools where teachers reported lower ORW use in general.*
- *The 13 teachers of classes attaining high reading gains show a decrease in completions for the year group they are teaching, yet the attainment scores remain above average. There would not appear to be a link between completion and reading gains.*

**Discussion**

***Exploring effective Bug Club implementation***

This section explores the efficacy of the Bug Club implementation. From baseline to A1 (see Table 4, Data Collection plan), children in schools implementing Bug Club made significantly more progress in all of the reading subscales. This would appear to indicate a successful and effective implementation of Bug Club, since children's progress rates were faster than those in the control schools. However, from baseline to A2, this progress was evident in word decoding only. The areas of measurable advantage had decreased, suggesting the implementation had become less effective.

From A2 to A3, the progress of Bug Club children, represented by the reading gain scores was not significant in any of the subscales, also suggesting that the implementation had become less effective. At A1 and A2, Bug Club children had made significantly more progress in reading (as measured by the InCAS standardised reading assessment) when compared to children in the control group. From baseline to A1, children in the Bug Club schools made 1.65 more points progress on the standardised reading measure than children in other schools, a small but highly significant effect and 1.74 more points progress at A2 (from baseline), also statistically significant. However, the positive effects of Bug Club were not observed from A2 to A3. There is a need to understand why the advantage of Bug Club ceased to be present and whether the cessation of the advantage seen in Bug Club schools is associated with Bug Club itself or the nature of continuing implementation in the schools.

One might logically expect there to be a relationship between implementation and outcome. One might assume that an implementation showing high fidelity to a given approach to be associated with better outcomes i.e. the more 'pure' the implementation, the better the outcomes. Findings from this study, the RCT and the exploratory study conducted at Phase 1 demonstrate that in the case of Bug Club, this does not hold true. There is no correlation with frequency of Bug Club usage and reading gain scores. From baseline to A1, a 'dose response' (which describes the change in effect on children caused by differing levels of exposure to (or dose of) Bug Club after a defined exposure time) relationship to Bug Club materials was explored in the RCT. Comparing 68 teachers in Bug Club schools (n=21), higher levels of Bug Club resource use, reported by teachers, was not associated with higher children' reading gains. Earlier in this report, findings were presented that show teachers whose classes made the highest reading gains did not report higher frequencies of usage. Individual children who stopped using every element of Bug Club still made progress at a rate faster than time passing, achieving a reading gain score. Effective implementation does not involve greater frequency of usage or sole use of Bug Club. What is effective is more complex and nuanced.

Findings relating to the classrooms making the greatest reading gains reveal that the teachers in these classrooms made almost continual adaptations to the Teacher Support materials and relied on decision-making based on the evidence they gleaned through ongoing formative assessment of child need using a variety of methods of the school's own choosing than they did on Bug Club assessment and reporting mechanisms. This would seem to indicate that effective implementation of Bug Club requires high levels of

teacher agency[17] and effective professional decision making.  Effective implementation did not involve the same or even similar usage across the classroom contexts where above average reading gains were consistently produced (Baseline to A1, A1 to A2). Effective implementation of Bug Club may require adaptation; the combination of particular resources, the cessation of others, changing the usage patterns to meet the needs of the child and over time. Many studies support the view that effective implementation is principally concerned with the creation of novel and situated knowledge by teachers that enables them to use materials in the most effective way. This links to the work of Professor Dylan Wiliam who says *"In education, "what works?" is not the right question because everything works somewhere and nothing works everywhere, so what's interesting, what's important in education is: Under what conditions does this work?"'*(Wiliam, 2006, conference presentation).  It would seem that Bug Club is not 'teacher proof' and requires a well-informed and skilled practitioner to achieve child outcomes that consistently produce reading gain.

An effective implementation is one that produces excellent child outcomes (i.e. the actual output matches the desired output).  Findings show that classrooms where Bug Club materials were amongst a range of resources used had the capacity to yield higher than average reading gains scores and are highly effective implementations.  But some classrooms (in both the intervention and control groups) who reported the same usage and patterns of implementation did not produce positive reading gains and could be perceived to be less effective implementations.  An effective implementation is not one that uses the Bug Club materials, but one that uses the Bug club materials in ways that are tailored to the learners and the school context.  This is not a given.

Findings suggest that effective implementation is not created by frequency or pattern of usage alone.  Approaches to teaching have become more specific and prescriptive in recent years (Schleicher, 2012) resulting in a 'demanded' professionalism, focusing predominantly on teachers' behaviours rather than their dispositions and thinking about pedagogy (Evans, 2011). This may have rendered some teachers less able to adapt materials in the ways that teachers of high reading gains classes were able to do.  The findings of this study underline the importance of 'praxis'[18]  (Kemmis & Smith, 2008). Here a key focus of professional learning is not merely the collection of activities (as represented by 'usage') but professional learning that organises sustained interaction

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[17] Action to problem solve and respond creatively to a classroom environment as opposed to following established routines.

[18] Praxis is practical action continuously informed by iterative cycles of theoretical knowledge and critical reflection rather than instructions for usage. Praxis is demonstrated by teachers who innovate, adapt and restructure learning opportunities in ways that might best meet the needs of the students.

between theory, critical reflection and 'usage' in order to support teachers to remain focused on improved outcomes.

The next section considers an approach to understanding the aspects of implementation of Bug Club that may influence efficacy (the term 'efficacy' is used to mean the ability to produce the desired result, in this case at least age-related progress in a range of measures related to literacy progress).

The findings demonstrate that whilst usage (both frequency and pattern) varied widely across effective and ineffective classroom implementations of Bug Club, four key factors that affect the effectiveness of Bug Club implementation were present in the data. These factors are discussed below.

*Commitment*
Commitment refers to the obligation one feels to engage with and use a resource. Initially, as teachers began to use Bug Club materials, they showed high commitment to the product. They may have also had an initially high moral commitment as each school was given many thousands of pounds worth of Bug Club materials in order to facilitate participation in the study. Usage was high, teachers enjoyed using new resources and enjoyed seeing the children excited about having new colourful resources in the classroom. Over time that commitment waned for some resources more than others. However, whether in the six case study schools, a teacher in a high reading gains class, a head teacher or a Literacy coordinator, all teachers interviewed showed high commitment to the Bug Club guided reading books. Teachers reported that their commitment was informed by perceptions of child and parental engagement. Commitment to ORW decreased in environments where teachers perceived that parental engagement and child engagement had decreased or where technical capacity (actual or otherwise) was deemed unsatisfactory. Teachers no longer felt obligated to allocate books and review child rewards if they perceived there was a wide variation of child usage and a lack of parental engagement. Teachers saw varying levels of IT access in the home as highlighting negatively the social differences, and a focus on sharing the rewards and tree houses etc. lessened as teachers perceived a possible negative impact. This lack of commitment in turn influenced parental and engagement and child motivation.

Beginning to implement something new is not easy, often involving "...a dip in performance and confidence as one encounters an innovation that requires new skills

and new understandings" (Fullan 2001, p. 40). Support for commitment will be needed in these situations. For some teachers, the success of the children in their care was sufficient to maintain commitment to working out how best to implement. In effective classrooms, teachers remained committed to principles (such as achieving high reading mileage, parental engagement) rather than product. Their response to diminishing parental engagement was adaptation. It may be that in less effective Bug Club implementations, diminishing commitment to product was followed up not by adaptation, but by less consistent usage. Support for the change process from either senior management and/or Pearson may have prevented this inconsistency and decline.

Commitment also exists at the school level. Head teachers stated that they were committed to the implementation of Bug Club. The head teacher of S7 enthused about the implementation in his school: '*We were so thrilled with the impact it has had in reception year 1 and year 2 last year that we actually purchased the Key Stage 2 Bug Club as well, so that then the children can have access to the online reading there ... seeing the impact of the KS1 convinced me that we needed it in KS2'*. Another head teacher commented: **'***We want to roll it out - exploring a reading scheme that goes across and we're looking at Bug Club as the core of that. By Sept, every child will have their own Kindle. We need every child to be reading'* (S9T1).

However, this commitment was sometimes not shared across a school, with senior management being unaware of the true perceptions of value held by other staff at the schools. For example, when asked if Bug Club would play an active role in literacy development in the school the coming year, the head teacher of S4 school said: '*yes, definitely - it's that variety and range: it's encouraging children to look at different kinds of books and getting them interested in reading'*. The Literacy co-ordinator, however, had a different perspective. Whilst she praised the quality of the guided reading print books (*'the quality of the books is fabulous'*), she had more negative observations about other aspects of Bug Club: *'we use the online less - we noticed the novelty has worn off - children are accessing it a lot less', 'Our staff don't use the Phonics Bug ... Y2 we don't use it at all. S4T6 uses it a little bit, but she's better at making her own things. The book reading will go on but the electronic stuff will go off'*. This raises the question of how involved senior leaders are in the implementation of Bug Club, and who is driving sustained commitment. The head teacher of S9 was very clear that the designated Bug Club lead was the force behind the implementation: *'she's a bit of a terrier - she gets hold of something and won't let it go. And parents respect her for that. She has been a big driver in that. You need the lead to be passionate about it'*. This teacher was clear about

149

her long-term vision for literacy going forward, looking to roll-out Bug Club to all classes. This long-term vision is important to shared commitment at school level. It may or may not be relevant, but the literacy coordinator at S4 was due to leave the school at that end of the summer term.

Another difference in the commitment at school level was the ways in which they began to implement Bug Club.

Schools made a decision about how to access the product training choosing to opt for a full day, two half days or two twilight sessions. Of the 21 schools who began implementing Bug Club in January 2015, 13 chose to have a full day focusing on Bug Club, five choose half day sessions and three chose to have the sessions after a school day (known as twilight sessions). When linked to the mean reading gains, data show that the mean reading gain of the 13 schools choosing to have a full day's session was greater than the mean reading gains seen in the other two choices, as Table 38 below demonstrates.

| Delivery of training | Mean reading gain score | Standard deviation |
|---|---|---|
| **1 Full day** **N = 15** | 5.26 | 2.330631 |
| **½ day sessions** **N = 5** | 3.086 | 1.021582 |
| **Twilight sessions** **N = 3** | 3.98 | 2.845915 |

*Table 38: School mean reading gains presented with training mode*

In the group of schools choosing one full day session, only 1 school had an average reading score which is lower than the mean in the other two groups, as evidenced by the standard deviations showing the dispersion of means. In the group of schools choosing to have twilight sessions, only 1 school had a mean approaching the mean seen in the 'Full day training' group. These differences are unlikely to be caused by the nature of the training since the training is heavily scripted and covers the same content in all of the schools. The choice of product training mode may indicate something about the commitment of the schools to an effective implementation. A full day's training represents a commitment by the school to a day's learning on a given topic. It may allow for deeper levels of reflection and connection to be made to the classroom context of the

school.  It means that the staff going to implement Bug Club spent the day together and may have overcome minor challenges to planning for implementation that were left undiscovered by staff in two short sessions. Full days also allowed for Teaching Assistants to attend. Often these support colleagues were the ones operating the day to day running of the ORW, and of selecting books for children.   Twilight sessions are after a full school day and so may reflect less commitment on the part of the school to the whole-hearted attention to using Bug Club to raise standards in literacy.

There may be other indicators of commitment in a school's response to Bug Club implementation.  The report of Phase 1 found that schools took different approaches to beginning to roll out the Bug Club implementation. For example, some schools did not access training for some weeks after the physical materials had been delivered to the school.  Some of those schools had a lull at that point and did not continue to make themselves familiar with the materials.  Schools also differed in the commitment they made to staff attending the training; some schools included just the one or two teachers that were involved in using the materials, with those few teachers cascading the information to the rest of KS1 staff. Other schools saw this as an opportunity to make sure that all Key Stage 1 staff knew about the Bug Club materials and the schools' involvement in the study in order to achieve consistency of approach across the whole of Key Stage 1.

It may be that the moral imperative to use the materials as requested diminished over time and teachers began to revert to materials used before participation in this study. Alternatively, it may be that the significant effects of Bug Club seen in the experiment schools between baseline and A1 are influenced by a Hawthorne effect of initial high commitment that over time reverted to a position of low commitment and low usage. This interpretation is supported by the fact that the initial steps in implementation seem to be very important to future effective implementation (see page 152). It would be valuable to gather more long term and wider scale data to explore the indicators of commitment that schools make to multiple aspects of implementation and the influence that early commitment make exert over later child attainment and usage.

*Professional Knowledge*
The study did not set out to find out what teachers understood about the pedagogies of learning to read and write and how that related to child progress, but incidentally the importance of professional knowledge and skills has emerged. The 13 teachers in classes with the highest reading gains all talked about using observation and assessment as evidence for adaptation. Typical of comments from all of these 13 high

reading gains teachers, the teacher at S13, for example noted '*we use assessment to check that children are on the right levels – we use to it keep a constant eye on matching children to an instructional level. We use these assessments alongside what is offered in Bug Club'*. Whilst the Bug Club materials are considered useful, they are not considered enough on their own and are used in combination with existing progressions, book bands, for example.

It may be that the professional knowledge required to make effective adaptations are needed for consistently high child outcomes, since children' needs are inevitably going to change from group to group. Therefore, teacher understanding of formative assessment will influence the effectiveness of the Bug Club implementation. Another example of how understanding influences the effective implementation is seen in technology. Earlier sections have discussed how some teachers avoided using it due to concerns about their own competence. Some schools were lacking in technical capacity and this also had an impact on the consistent implementation of ORW and its connectedness to other aspect of Bug Club.

*Participant motivation*

It may be that commitment was fuelled by participant motivation. Perceptions of high motivation appear to support teachers to maintain high levels of commitment and usage. But if this motivation appears to diminish, then commitment to usage declines, in some cases usage ceases. One example of this influence can be seen in the use of ORW as part of the Bug Club implementations. Child and parent motivation for ORW was high during the study at Phase 1. This motivation was reported by both children and parents to have declined in some aspects. Teachers were aware of this decline in motivation. Decline in usage was reported by teachers, parents and children. As children had less access, they asked to use it less as it became less consistent in their experience and as teachers referred to progress through the rewards less consistently.

*Balance of Fidelity and Adaption*

Here the term 'fidelity' refers to how complete usage was and how closely the practices advised in the Bug Club teacher support materials were followed. Initially schools showed high to moderate fidelity to the Bug Club resources and procedures, with most reporting to use all or almost all materials. Most typically, Phonics materials (Phonics Bug and Phonics Online) were the most frequently omitted element. During the period of study, fidelity to the resources decreased. However, fidelity in the classrooms with the highest reading gains were no more 'faithful' to Bug Club than those with lower reading

gains. Of itself, fidelity was not a necessary presence in an effective classroom implementation. Adaption, however, was a recurring feature of effective classroom contexts. Teachers in classes with high reading gains provided evidence-based rationales related to formative assessment of child need. The fidelity exercised here was in relation consistent responsiveness to child needs, rather than consistent use of the resources and approaches. One example of this is a teacher at S9. She described how she addressed the issue of creating opportunity for high mileage in her class because she was aware how important it was that her children gained control of key language structures. Her assessment of parental engagement was such that despite the resources to arrange for mileage supported by parents, she had to do something else since so many of the parent cohort spoke English as an additional language and in many cases were not committed to a home-school reading approach. She adapted what she had available by using the guided reading books in a novel way to achieve the necessary goals for her class at that time and abandoned the ORW as it wasn't working with this class. In this example, adaptation has made an effective contribution to child outcome. Her fidelity was to the principle that formative assessment and knowledge of her children should inform her teaching.

The findings of this study indicate that some adaptation is inevitable; it is not an implementation failure. In many ways, it is an evitable and positive outcome since one would expect the teachers in Bug Club classes to have more knowledge of what is appropriate and when, than programme developers. There may be important lessons for Pearson to learn from the adaptations that teachers make in order to develop the flexibility of Bug Club materials and teacher guidance for effective implementation in a variety of contexts.

The study did not explore specifically what the teachers in classes with negative reading gains did, though teachers in this category were represented amongst the 10 teachers in the six case study schools. Effective classrooms had a balance between fidelity and adaptation, using ongoing formative assessment to recalibrate that balance continually. Bug Club is less conducive to fidelity by design since it is not highly structured and has no accompanying detail in Teacher Support materials to ensure consistency of approach. Evidence for possible advantages to achieving cohesion through using the entire set of materials is not offered. Findings show that Bug Club is not teacher-proof; teachers need to have high agency, deploy evidence based adaptation to create an effective classroom implementation.

There would seem to be four aspects that influence the degree to which the implementation can be consistently effective; commitment, professional understanding, participant motivation and balance between fidelity and adaptation.
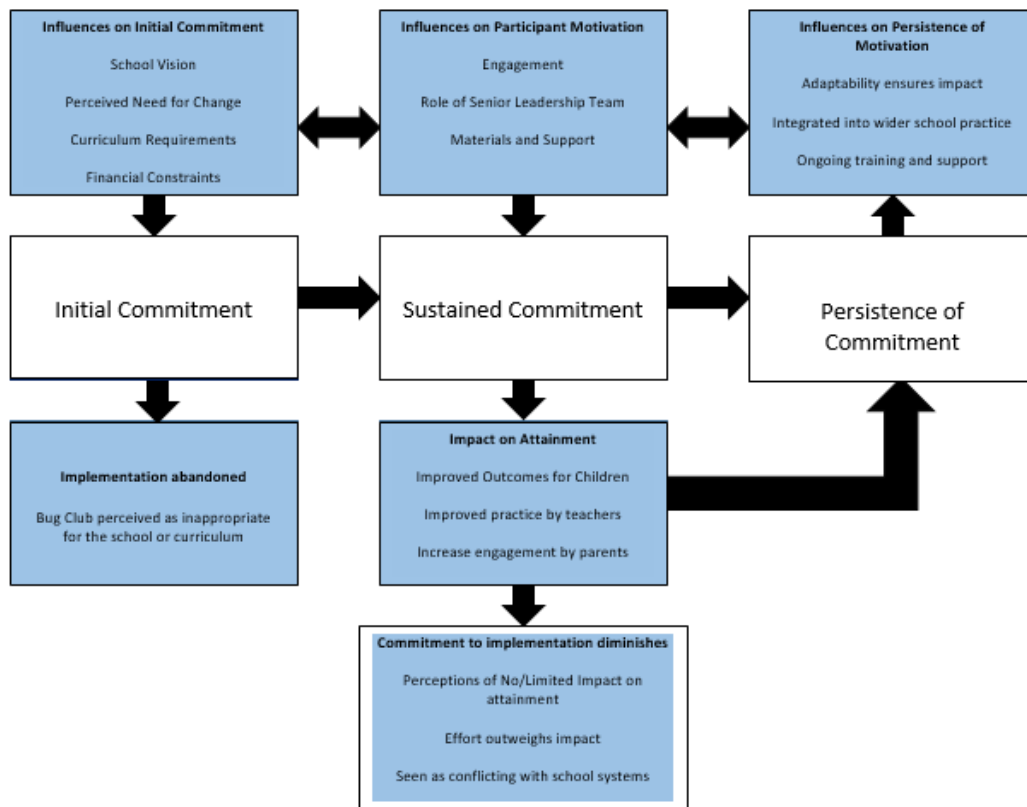


*Figure 6: Influences on effective implementation of Bug Club*

The model of influences above shows how implementation is shaped by a range of influences, some relating to contextual features, some to teacher skill and some to community features. The influences build up and interact to shape the degree to which the implementation is effective. A beginning step to effective implementation is commitment; a school and its teachers need to make a commitment to initiate an implementation of Bug Club by going through some important set-up steps and by committing time to staff training prior to or close to the time that resources are available for use. The extent to which this is effective appears to have an influence on effectiveness at a later stage. When commitment to implement has been created, professional knowledge influences how teachers interact with the materials and provide

teaching that produces quality child outcomes.  Participant motivation (at Key Stage 1 this refers to children and parents) exerts an influence on whether commitment is maintained after a period of initial engagement.  If it is perceived that either child or parent motivation has decreased, this seems to result in a reduction in commitment on behalf of the teachers and school leadership. If commitment is maintained, teachers begin to adapt the implementation and deployment of resources to meet the needs of their children.  If this balanced with fidelity to the successful elements and adaptation of the less successful, then the implementation produces effective results.

This study sought to explore how schools implemented Bug Club in a real world setting. No researcher control was exerted over the strategies of implementation and the frequency of usage in the Bug Club schools. Therefore the findings of the study have what Durlak & Dupre (2008) terms 'Ecological validity'.  This refers to the degree that the study observes and gathers data that exists in natural settings and increases the generalisability to other real world settings, something which tightly controlled experimental conditions lack.

### *Suggestions for Further Research*

Current research has relied on naturally occurring events to assess factors related to implementation.   Much of the evidence for modelling influences on effective implementation are provided by self-reports.  These findings could be further explored by manipulating some of the variables identified.

Findings show that implementation is not static; over time each school's implementation evolved as a response to the child, parent and learning context.  Data collected at the early stages of implementation may have positively represented what is possible. Other studies have indicated that implementation may deteriorate over time (Durlak & Dupre, 2008). Data collected early in the intervention may have overestimate the efficiency of implementation that could reasonably expected.  This points to the importance of longitudinal studies to ensure valid and reliable findings.

Findings suggest that fidelity of implementation of itself does not ensure child outcomes. It is possible that once a certain level of fidelity is attained higher usage may not lead to significantly better outcomes, particularly if Bug Club's core components have already been effectively delivered.  It would be helpful to explore if there are 'threshold' points above not further positive impact is felt.

**Conclusions**

The findings of this study clearly demonstrate that Bug Club is not teacher proof; its usage alone cannot ensure expected or above expected progress for the children using it.   Whilst a recipe for success does not emerge from the findings, there have been some useful messages.  Perhaps the most notable amongst these relate to the importance of professional development for teachers and schools beginning to implement a new programme of resources, the need to ensure that teachers have the technology skills to deliver online materials effectively, the need for consistent and iterative attention to home-school initiatives and the support needed for parents to sustain motivation for home reading and the need for age-appropriate design of materials to encourage continued motivation for positive reading habits.

Teachers' professional knowledge and expertise are suggested as the variables with the greatest impact on readings gains which are age commensurate or above.  Much of the literature regarding teacher professional learning would support this interpretation. Frequency and consistency of usage were not linked to high reading gains; high adaptability and consistent, frequent use of evidence based instructional strategies were. Use of non-Bug Club resources was reportedly more frequent in the higher than average reading gains classes that were part of this study. It was the quality of the teaching not the presence of Bug Club that derived higher than average reading gains.

Teachers however did feel that Bug Club provided suitable tools for them to teach effectively. So what did the teachers involved in this study consider important in a Bug Club implementation? In the supplementary interviews in November, to consider whether the changes made to the implementation over time were typical of schools generally, teachers were asked to identify three things they thought were important in making Bug Club  work well (though not ranked in order of importance). The table below lists the number of times a particular theme occurred.

| Theme | Exp (n=10) | New (n=11) | Total number of references |
|---|---|---|---|
| Frequency/regular/consistent usage | 4 | 5 | 9 |
| Familiarity with materials (including initial PD) | 4 | 4 | 8 |
| Adaptability/differentiation/flexibility of materials – to teacher style and needs of children | 5 | 3 | 8 |
| Child motivation and engagement/choice/accessibility | 3 | 4 | 7 |
| Range/variety/attraction of materials | 4 | 2 | 6 |
| Use of assessment/monitoring/tracking (e.g. using book bands) | 3 | 3 | 6 |
| Parental engagement | 2 | 3 | 5 |
| IT support and reliability | 1 | 1 | 2 |
| Interactive teaching | 1 | 1 | 2 |
| TA engagement | 0 | 1 | 1 |

*Table 39: Teachers' views on successful implementation of Bug Club*

Whilst numbers interviewed were small, so generalisation difficult, almost half the teachers interviewed viewed the regular and consistent use of Bug Club within their classroom provision to be an important factor: *'Having regular daily or weekly slots for reading, guided reading, class activities and so on make the children become more independent and get into good reading habits'* (S30T1). This importance was perceived fairly equally amongst the new teachers and the more experienced Bug Club users.

Half of the experienced teachers cited adaptability of the materials as an important factor, being able to adapt to the needs of the children in their class and to their own teaching style: '*Use the parts that suit your school, class and individuals'* (S17T1l). A smaller number of the new teachers gave adaptability as one of their important factors, suggesting that familiarity with the Bug Club range of materials needed to be established before teachers felt comfortable with adapting to sit their needs: *'To make the phonics work, I find I have to adapt it to make it a bit more practical. But that may just be to do*

*with the needs in my classroom. My children need to be up and about a bit more. I just change the way I do it a little bit'* (S24T1).

Teachers considered the most important aspects in an effective implementation of Bug Club to be confidence to use materials regularly and appropriately recognising their place in a literacy learning curriculum and to adapt materials in response to the needs of the specific children and the context of the school. Both the teachers' own words and the findings of this study would point to the pressing need for support for Pearson to be focused on professional learning in these key areas rather than product training to be key to the continued motivation for and usage of Bug Club.

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**List of Appendices:**

Appendix 1. Bug Club implementation

Appendix 2.  Teacher, Head Techer and Literacy Coordinator interview schedule

Appendix 3.  Pupil Interview Schedule

Appendix 4. Bug Club case study interview schedules

Appendix 5. Parent interviews

Appendix 6. Bug Club case study interview schedules

Appendix 7.  Bug Club Questionnaire

Appendix 8. Pupil Questionnaire

Appendix 9. Bug Club Case Studies

**Appendix 1.**

# 2. Bug Club implementation

- Bug Club materials can be supplemented with other resources in your school however Bug Club should be the main reading programme across the school

| Bug Club materials | Required Usage | |
|---|---|---|
| | **Minimum** | **Ideal** |
| Print books* | • print books are the main reading resource in the school and available on classroom book shelves<br>• print books to be used during guided reading activities where possible (other books may be used e.g. to link to topic work) | • Comics for Phonics available on classroom book shelves<br>• Julia Donaldson plays used in speaking and listening activities |
| Online Reading world | • pupils to actively use e-books in school (planned opportunities)<br>• actively encourage use at home<br>• monitor pupils attainment through online reports | • parents encouraged to access online reading world to view child's progress |
| Phonics Bug | • all phonics discrete teaching to be done with Phonics Bug materials as the main progression link (other texts may be brought in occasionally) | • Phonics Bug to be the only phonics programme used within the school |
| Teacher support materials | • if appropriate select relevant teacher support materials for planning and assessment and for guided reading | • use planning and assessment guides for whole-class reading sessions<br>• use suggested activities e.g During Reading and after reading activities and phonics for writing activities |
| Grammar and Spelling Bug (optional) | | • all discrete grammar and spelling teaching to be done with Grammar and Spelling Bug materials<br>• monitor pupils attainment through provided assessments |

*Print Books includes Comics for Phonics and Julia Donaldson Plays

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**Appendix 2.**

# 1. Teacher interview

**Purpose (for researcher):**

- *To explore to what extent initial engagement and positive evaluation of quality and contribution toward pupil attainment are maintained*
- *To explore whether teachers continue to perceive that Bug Club reading materials engage and motivate pupils to read.*
- *To evaluate whether initial enthusiasm and interest are maintained long term.*
- *To explore whether teachers have changed their attitudes to extrinsic rewards on the Online Reading World, both positively and negatively.*

**Introduction and repeat informed consent assurances**

*My name is _____.  I am in school today to explore what teachers think of Bug Club a year after the school adopted it.*

*Please can I talk to you about what you think about Bug Club?*

*It will take about 20 minutes, but we can stop the interview at any time.*

| Section A: Profile | |
|---|---|
| A1. Teacher/class code | |
| A2. Age group taught last year | |
| A3. Gender | |

| Section B: Implementation/usage summary |
|---|
| B1. [Interviewer to summarise teachers' approach to implementation in Year 1]<br><br>Is this still the case? |
| B2. Tell me about how you are using it now, after having it in your classroom for the past 12 months (prompt: what is used, how often, in what ways) |
| B3. Is there anything you don't use? Why is that? |

| Section C: Impact |
| --- |
| **C1 Overall**, in what areas do you think Bug Club has made a difference? |
| **C2 Teaching** |
| C2.1 Thinking about specific areas, do you think BC has made a difference to your teaching? [If not already covered] probe:<br><br>• Knowledge and confidence overall of teaching reading / phonics at KS1<br>• Use of technology/electronic texts for guided/independent reading<br>• Assessment/monitoring |
| C2.2 Growth: Do you think you have developed new skills through using Bug Club?<br><br>(If yes) Tell me about those skills. |
| C2.3 Have you had further staff development on the BC reading programme? |
| C2.4 Was that in-house or from Pearson? |
| C2.5 Why was it organized? |
| C2.6 Was it helpful?    Y   N |
| C2.7 In what ways? |
| **C3 Pupils – overall** |
| C3.1 Do you think BC has made a difference to pupil learning? |
| C3.2 What impact has it had on the pupils? |
| **C4 Pupil motivation** |
| C4.1 Has it had an impact on the motivation of pupils?      Y     N |
| C4.2 In what ways? [If not already covered] probe:<br><br>• Initial motivation to read<br>• Continued enthusiasm |
| C4.3 Is this the case for all pupils? Girls/boys, reluctant readers, weaker readers, those already engaged in reading, stronger readers, those who receive pupil premium, EAL pupils? |
| C4.4 What aspect of Bug Club has supported this? |
| C4.5 Has pupil level of motivation changed or remained the same over time? How so? |
| **C5 Pupil engagement** |
| C5.1 In general, do you think BC has made a difference to the engagement of pupils? Y   N   Qualified yes |
| C5.2 In what ways? [If not already covered] probe:<br><br>• Reading for pleasure<br>• Attitude towards reading<br>• Self-confidence |

| |
|---|
| C5.3 Is this the case for all pupils? Girls/boys, reluctant readers, weaker readers, those already engaged in reading, stronger readers, those who receive pupil premium, EAL pupils? |
| C5.4 What aspect of Bug Club has supported this? |
| C5.5 Has pupil level of engagement changed or remained the same over time? How so? |

| **C6 Reading mileage** |
|---|
| C6.1 Do you think BC has made a difference to reading mileage? Y/N |
| C6.2 In what ways? [If not already covered] probe:<br><br>• In school<br>• At home |
| C6.3 Is this the case for all pupils? Girls/boys, reluctant readers, weaker readers, those already engaged in reading, stronger readers, those who receive pupil premium, EAL pupils? |
| C6.4 What aspect of Bug Club has supported this? |
| C6.5 Has pupil reading mileage changed or remained the same over time? How so? |

| **C7 Pupil attainment** |
|---|
| C7.1 Do you think BC has made a difference to reading attainment? Y/N |
| C7.2 In what ways? |
| C7.3 Is this the case for all pupils? Girls/boys, reluctant readers, weaker readers, those already engaged in reading, stronger readers, those who receive pupil premium, EAL pupils? |
| C7.4 What aspect of Bug Club has supported this? |
| C8.1 Do you think implementing Bug Club has changed pupil reading habits generally, in the longer term? (i.e. do they enjoy books in general more? Or has it increased online reading activities but not reading generally?) |
| C8.2 Anything in particular that has helped? |

| **Section D: Different aspects of Bug Club** |
|---|
| **D1 Bug Club readers** |
| D1.1 Last summer, teachers reported that pupils were very excited about the books and seemed to prefer them to the reading materials they had experienced before…<br><br>• What do you think the pupils think now?<br>• Do they enjoy BC books more? Less? Or the same?<br>• Why is that, do you think? |
| D1.2 Is this the case for all pupils? Girls/boys, reluctant readers, weaker readers, those already engaged in reading, stronger readers, those who receive pupil premium, EAL pupils? |
| **D2 Online Reading World - overall** |

| | |
|---|---|
| D2.1 Do you use this for home reading? | • Yes<br>• No |
| D2.2 Do you use this in the classroom? | • Yes<br>• No |
| D2.3 Last summer, schools reported that most parents were keen to be involved with the ORW at home – what's happening now? | |
| D2.4 Do more parents engage with ORW at home? Less? Or the same? Why is that, do you think? | |
| D2.5 Have you organised any further support for parents for using ORW? Or for accessing ORW for those without online access at home? Tell me about what you have done. | |
| **D3. Quizzes** | |
| D3.1 Do your pupils like to do the quizzes? | • Yes<br>• No |
| D3.2 Tell me about the reasons you think they like/don't like the quizzes | |
| D3.3 Do you think pupils like the quizzes more now? Less now? Or the same? Why is that, do you think? | |
| D3.4 Do you think it affects how the pupils feel about reading? | • Yes<br>• No |
| D3.5 In what ways? | |
| **D4. Rewards** | |
| D4.1 Do your pupils like to do the quizzes? | • Yes<br>No |
| D4.2 Tell me about the reasons you think they like/don't like the quizzes | |
| D4.3 Do you think pupils like the quizzes more now? Less now? Or the same? Why is that, do you think? | |
| D4.4 Do you think it affects how the pupils feel about reading? | • Yes<br>No |
| D4.5 In what ways? | |
| **D5. Avatars** | |
| D5.1 Do your pupils like to do the quizzes? | • Yes<br>No |
| D5.2 Tell me about the reasons you think they like/don't like the quizzes | |
| D5.3 Do you think pupils like the quizzes more now? Less now? Or the same? Why is that, do you think? | |
| D5.4 Do you think it affects how the pupils feel about reading? | • Yes<br>• No |
| D5.5 In what ways? | |
| **D6. Connection – what impact do you think it has had on the school as a whole?** | |

| Section E. Recommendations and closing | |
|---|---|
| Out of 10, with 10 being the highest, how likely are you to recommend… | 1  2  3  4  5  6  7  8  9  10 |
| E1.1 Bug Club, as a whole, to a colleague in another school? | |
| E1.2 Why? What would you say? | |
| E2.1 Online Reading World, overall, to a colleague in another school? | |
| E2.2 Why? What would you say? | |
| E3.1 Quizzes, to a colleague in another school? | |
| E3.2 Why? | |
| E4.1 Rewards system, to a colleague in another school? | |
| E4.2 Why? | |
| E5.1 Avatars, to a colleague in another school? | |
| E5.2 Why? | |
| E6. Is there anything else about the books and ORW you would like to tell me? | |

**Thank you for talking to me today** ☺

## 4. Head Teacher and Literacy Coordinator

**Purpose (for researcher):**

- *To explore to what extent initial engagement and positive evaluation of quality and contribution toward pupil attainment are maintained.*
- *To explore whether SMT continue to perceive that Bug Club reading materials engage and motivate pupils to read.*
- *To explore schools' literacy policy/aims/aspirations, whether it is the same as last year, and whether teachers continue to perceive that implementation of Bug Club continue to contribute to this*
- *To evaluate whether initial enthusiasm and interest shown by SMT are maintained long term.*

*To note: the Head Teacher may not have a detailed understanding of some questions.*

### Introduction and repeat informed consent assurances

*My name is _____.  I am in school today to explore what teachers think of Bug Club a year after the school adopted it.*

*Please can I talk to you about what you think about Bug Club?*

*It will take about 20 minutes, but we can stop the interview at any time.*

| Section A: Profile | |
|---|---|
| **A1. Teacher/school code** | |
| **A2. Role in school** | |
| **A3. Gender** | |

| Section B: Warm up and summary of school context |
|---|
| B1. [Interviewer to summarise teachers' approach to implementation in Year 1]<br><br>Is this still the case or has anything changed since we last spoke? |
| B2. Tell me about how you think BC has helped you achieve the goals for your school over the last 12 months. |

| Section C: Impact |
|---|
| **C1 Overall**, in what areas do you think Bug Club has had most impact? How so? |
| **C2 Pupils - overall** |
| C2.1 Do you think BC has made a difference to pupil learning? |
| C2.2 What impact has it had on the pupils? |
| **C3 Pupil motivation** |
| C3.1 Do you think BC has had an impact on motivation of pupils?     Y     N |
| C3.2 In what ways? [If not already covered] probe:<br><br>    o   Initial motivation to read<br>    o   Continued motivation to read |
| C3.3 Is this the case for all pupils? Girls/boys, reluctant readers, weaker readers, those already engaged in reading, stronger readers, those who receive pupil premium, EAL pupils? |
| C3.4 What aspect of Bug Club has supported this? |
| C3.5 For pupils in Year 2 now, has their level of motivation changed or remained the same over time? How so? |
| **C4 Pupil engagement** |
| C4.1 Do you think BC has made a difference to the engagement of pupils? Y N |
| C4.2 In what ways? [If not already covered] probe:<br><br>• Reading for pleasure<br>• Attitude towards reading<br>• Self-confidence |
| C4.3 Is this the case for all pupils? Girls/boys, reluctant readers, weaker readers, those already engaged in reading, stronger readers, those who receive pupil premium, EAL pupils? |
| C4.4 What aspect of Bug Club has supported this? |
| C4.5 Has pupil level of engagement changed or remained the same over time? How so? |
| **C5 Reading mileage** |
| C5.1 Do you think BC has made a difference to reading mileage? Y   N |
| C5.2 In what ways? [If not already covered] probe: |

| |
|---|
| • In school<br>• At home |
| C5.3 Is this the case for all pupils? Girls/boys, reluctant readers, weaker readers, those already engaged in reading, stronger readers, those who receive pupil premium, EAL pupils? |
| C5.4 What aspect of Bug Club has supported this? |
| C5.5 Has pupil reading mileage changed or remained the same over time? How so? |
| **C6 Pupil attainment** |
| C6.1 Do you think BC has made a difference to reading attainment? Y/N |
| C6.2 In what ways? |
| C6.3 Is this the case for all pupils? Girls/boys, reluctant readers, weaker readers, those already engaged in reading, stronger readers, those who receive pupil premium, EAL pupils? |
| C6.4 What aspect of Bug Club has supported this? |
| C6.5 For pupils in Year 2 now, has this changed or remained the same over time? How so? |
| **C7 Teacher motivation** |
| C7.1 Do you think BC has had an impact on motivation of teachers?    Y      N |
| C7.2 In what ways? |
| C7.3 Is this the case for all teachers? Newly qualified/experienced teachers? |
| C7.4 Has this changed or remained the same over time? How so? |
| **C8 Engagement of teachers** |
| C8.1 Do you think BC has had an impact on engagement of teachers? Y N |
| C8.2 In what ways? |
| C8.3 Is this the case for all teachers? Newly qualified/experienced teachers |
| C8.4 Has this changed or remained the same over time? How so? |
| **C9 Confidence of teachers** |
| C9.1 do you think BC has had an impact on the confidence of teachers to teach reading effectively?   Y     N |
| C9.2 In what ways? [If not already covered] probe:<br><br>   o Overall, teaching reading at KS1<br>   o Teaching phonics at KS1<br>   o Use of technology/electronic texts for guided/independent reading<br>   o Assessment/monitoring |
| C9.3 Is this the case for all teachers? Newly qualified teachers, experienced teachers |
| C9.4 Has this changed or remained the same over time? How so? |
| C9.4 Anything else? |

| Section D: Impact on parental engagement |
|---|
| D1 Some schools chose to be part of the study so that they could involve parents more and engage families with reading more. |
| D1.1 Would you say that has happened?   Y    N |
| D1.2 Please tell me about what you have noticed |
| D1.3 What did you do? [Interviewee to summarise approaches last year and check what had taken place this year] |
| D1.4 Would you say that Bug Club has helped to ensure that children from homes with less access to literacy have had more experience of literacy in the home?   Y    N |
| D1.5 What specifically has helped you achieve that? |
| D1.6 Were there any barriers in the process you would like to tell us about? How did you overcome them? |


| Section E. Assessment and monitoring |
|---|
| E1 Thinking about the impact BC has had on how you assess and track progress. |
| E1.1 Has BC helped you to manage or to track children's attainment in literacy?   Y   N |
| E1.2 In what ways? |
| E1.3 Has BC helped you to manage or to track children's range of experiences, for example types of book read, ITC experiences?   Y   N |
| E1.4 In what ways? |
| E1.5 Has your experience with BC made you think about doing anything differently across the school? Have you done this? E.g. wider adoption of tracking and monitoring practices |
| E1.6 Has BC helped you to support coherent and consistent provision across the school?  Y    N |
| E1.7 In what ways? |


| Section F. Cost efficiency |
|---|
| F1.1 Thinking back on the entire implementation process, do you think the effort your school has put in (e.g. time taken to set up, attending professional development session) has been worth it? In what way? |

| F1.2 In July 2015, many HTs reported that they thought BC was good value in terms of value for money |
| F1.3 Do you still think that?   Y   N |
| F1.4 Please tell me why that is your view. |

### Section G. Future plans

| G1.1 What do you intend to do next to develop literacy teaching in your school? |
| G1.2 Do you think Bug Club will have a role in that?  Y    N |
| G1.3 In what ways? |

### Section H. Recommendations and closing

| Out of 10, with 10 being the highest, how likely are you to recommend… | 1  2  3  4  5  6  7  8  9  10 |
| --- | --- |
| H1.1 Bug Club, as a whole, to a colleague in another school? | |
| H1.2 Why? What would you say? | |
| H2.1 Online Reading World, overall, to a colleague in another school? | |
| H2.2 Why? What would you say? | |
| H3.1 Is there anything else about Bug Club and the online reading world you would like to tell me? | |

**Thank you for talking to me today** ☺

**Appendix 3.**

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**Pupil Interview Schedule**
(Please note: The purpose of the pupil interviews is in Appendix 1. <u>Interviewers should check in advance whether all pupils have completed the InCas assessment. If so, interviewers do not have to ask questions 1.1 - 1.5</u>)

**Introduction - Repeat informed consent assurances**

Thank you for talking to me. I'd like to ask you what you think of the Bug Club books and the books you read on the computer (Online Reading World). Is that okay?
- If yes- You can stop answering the questions whenever you want and if you don't want to answer a question, that's fine.

- Pupil name:
- Gender (circle): M   F
- Age:
- Year group (circle):  Y1  Y2

My name is _____.  I am in school today to find out about what children and teachers think about reading and reading books.
Please can I ask you about reading and what you like to do? It will take about 10 minutes, but you can stop and go back to class at any time.

**Warm up**
- Tell me about what you enjoy playing with.
- What's your favourite toy?
- Tell me what you enjoy about coming to school.

## 1. Reading Attitudes

I am going to ask you how you feel about things, especially about reading. When I ask you a question I would like you to point me to one of the faces here – show print out and move to Q1.1

### 1.1   I like reading

When you ask pupils to point please point to them the relevant face. Repeat the instruction for all questions using your finger)

- If you like reading point the happy face
- If you really like reading point the really happy face.
- If you don't like reading point to the sad face
- If you really don't like reading point to the really sad face
- If you are not sure point to the middle face
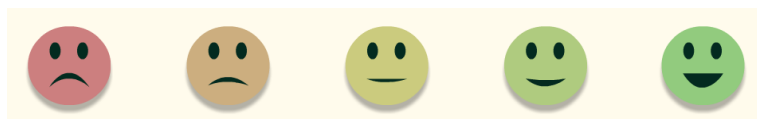
### 1.2   I'm good at reading

- If you think you are good at reading point to the happy face
- If you think you are really good at reading point to the really happy face.
- If you don't think you are good at reading point to the sad face
- If you really don't think you are good reading point to the really sad face
- If you are not sure point to the middle face
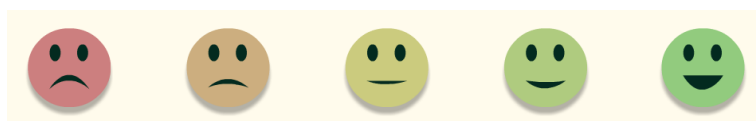
Repeat the instruction for all questions as above – Q1.1 & 1.2

### 1.3   I look forward to reading
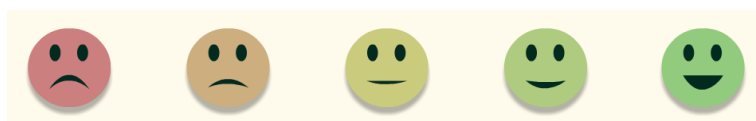
### 1.4   I learn things quickly in reading
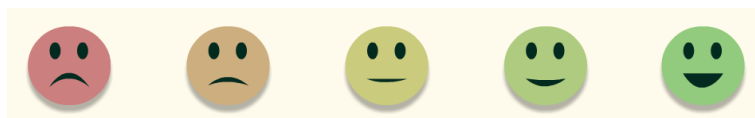
### 1.5   I like reading comics and magazines
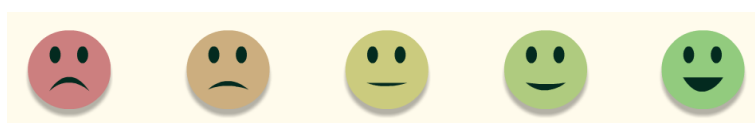
## 2. Reading for pleasure / independent reading

**Survey Monkey Questions -  ask pupils who took survey for validation purposes**

1. Did you read a book at home last week? Y/ N

2. How often do you read at home?
- ☐ Almost never
- ☐ About once a month
- ☐ About once a week
- ☐ Almost every day

3. What things did you read at home last week? If they did not read anything tick the last box
- ☐ Storybook
- ☐ Other types of book, for example an information book on science or history or sports
- ☐ Magazine
- ☐ Comic
- ☐ Website
- ☐ Text message
- ☐ Email
- ☐ Poem
- ☐ E-book
- ☐ Manual
- ☐ I did not read any of these

2.1    Do you read at home?        Yes          No

2.2    What do you read at home? (Probe: try to elicit breadth and depth of reading)
- Books from school? other books? Who gives them to them? How do they choose?
- What do they enjoy – books with stories, comics; magazines
- Where do they prefer reading? Print books, tablet, computer

2.3    Did you read a book at home last week?     Yes          No

2.4  How often do you read at home? Which sentence sounds like you?

- I read at home every day
- I read at home a few days – 2 or 3 days a week
- I read at home about 1 day a week
- I hardly ever read at home during the week
- I never read at home

## 3. Reading Preference

Focus the child on the different elements (Bug Club, Phonics Bug, Spelling Bug) and media (Online Reading World) by using props.

**3.1 Bug Club -** Let's look at these story books. What do you think of these?
- Prompt: story quality, characters, illustrations, links to online reading world, feeling successful

**3.2 Phonics Bug -** Let's look at these books for practising sounding out. What do you think of these?
- Prompt: story quality, characters, illustrations, links to online reading world, feeling successful

**3.3 Grammar and Spelling Bug -** Let's look at these books for practising sounding out. What do you think of these?
- Prompt: story quality, characters, illustrations, links to online reading world, feeling successful

**3.4 Online Reading World -** I am going to show you the Bug Club Online Reading World/books on the computer (we will ask schools if this is possible it may not be)

3.4.1  Do you read your books on the computer when at home?    Yes   No

3.4.2  Do you read your books on the computer when in school?    Yes    No

3.4.3  Thinking about the _____ (ask children for each one of the below – quizzes, avatars, rewards) I want to know what you think about them.

|          | Do you like the…? |          |
|----------|------------------|----------|
| Quizzes  | Yes       No     | What do you like/don't you like about them? |
| Avatars  | Yes       No     |          |
| Rewards  | Yes       No     |          |

## 4. Perceptions on enjoyment

4.1 Please probe for all Bug Club elements (Bug club, Phonics Bug, Online Reading World, Spelling Bug) using statements below. If not possible for each element ask a general question about Bug Club books.

- Tell me what's fun/not fun
- Tell me how they make you feel about reading the books
- Is there anything else about the books and Reading World you would like to tell me today?


Thank you for talking to me today

**Appendix 1 – Pupils interview purpose**


- To understand learner views of the products, particularly enjoyment and motivation of printed materials and online experience
- To explore pupil perceptions of Bug Club, Phonics Bug and Online Reading World materials
- To measure trends in habits and attitudes and elicit 'in vivo' evaluations of materials

**Appendix B – Smiley Faces for pupils**

**Appendix 4.**

**Bug Club case study interview schedules**

| School | |
|---|---|
| Date | |
| Researchers | |

## Research question 1: Do motivation and engagement continue, at pupil, teacher and school levels?

This pack includes semi structured face-to-face interview schedules to be carried out with:

1. Pupils
2. Parents
3. Teachers
4. Head Teacher/Literacy Coordinator

Interviews with pupils will be accompanied by examples of Bug Club resources (hard copy Bug Club Reader, Phonics Bug and ORW on an iPad) to demonstrate and maximise the validity of interviews with young children.

## 1. Pupil interviews

**Purpose (for researcher):**

- *To explore whether pupils continue to find Bug Club reading materials engaging and are motivated to read in the 2nd year of implementation*
- *To explore whether extrinsic rewards on the Online Reading World lead to the development of positive reading engagement and intrinsic motivation.*

**Introduction and repeat informed consent assurances**

My name is _____.  I am in school today to find out about what children in Year 2 think about Bug Club a year after your school started using it.

I'd like to talk to you about Bug Club. I'd like to find out what you think about it. Would that be OK? It will take about 10 minutes, but you can stop and go back to class at any time.

(If yes)  You can stop answering the questions whenever you want and if you don't want to answer a question, that's fine.

**[Pupil to complete consent form]**

| Section A: profile and warm up | |
|---|---|
| A1. Name | |
| A2. Gender | |
| A3. Age | |
| Warm up | • Tell me about what you like to read at home.<br><br>• Tell me about your favourite book |

| Section B: attitudes to reading (& survey monkey questions) | |
|---|---|

*I am going to ask you how you feel about things, especially about reading. When I ask you a question I would like you to point me to one of the faces here – show print out (based on below)*



| B1. Which one of these sounds like you? | • Really good at reading<br>• Good at reading<br>• OK at reading<br>• Not good at reading<br>• Really bad at reading |
|---|---|
| B2. Which one of these sounds like you? | • I really like reading<br>• I like reading<br>• I don't mind reading<br>• I don't like reading<br>• I really don't like reading |
| **B3. Survey monkey questions** | |
| B3.1 Did you read a book at home last week? | [Yes/no] |
| B3.2 How often do you read at home? | • Almost never<br>• About once a month<br>• About once a week<br>• Almost every day |
| B3.3 What things did you read at home last week? If they did not read anything tick the last box | • Storybook<br>• Other types of book, (e.g. info book)<br>• Magazine<br>• Comic<br>• Website<br>• Text message<br>• Email<br>• Poem<br>• E-book<br>• Manual<br>• I did not read any of these |

| Section C: Bug Club then and now |
|---|

| | |
|---|---|
| | |
| C1. Please can you tell me which parts of Bug Club you like? | |
| C1.1 Bug Club readers | • I really like it<br>• I like it<br>• I don't mind it<br>• I don't like it<br>• I really don't like it |
| C1.2 Phonics Bug | • I really like it<br>• I like it<br>• I don't mind it<br>• I don't like it<br>• I really don't like it |
| C1.3 Spelling and Grammar Bug activities | • I really like it<br>• I like it<br>• I don't mind it<br>• I don't like it<br>• I really don't like it |
| C1.4 Online reading world | • I really like it<br>• I like it<br>• I don't mind it<br>• I don't like it<br>• I really don't like it |
| **C2. Bug Club readers** | |
| C2.1 *[Using the example resources as props and thinking about now]*<br><br>Do you like Bug Club books, like these (Y/N)? Why? | |
| C2.2 *Tell me about when you first had these books in your classroom in year 1 (with teacher…)*<br><br>Did you like/not like them then too? Have you always liked/not liked them?<br>Probes:<br>- What did you think of the exciting characters?<br>- Did you enjoy the fun quizzes?<br>- Did you like the colourful drawings? | |
| C2.3 Did this make you want to read? | |
| C2.4 Do you like them more, less or the same now? | |
| C2.5 Why is that? | |
| C2.6 Do you like the same things about them *in year 1 (with teacher…)*<br> (prompts: story quality, characters, illustrations, links to online reading world, feeling successful) | |
| **C3. Online reading world** | |
| C3.1 Do you read books on ORW when you are at home? | • Yes<br>• No |
| C3.2 Do you read books on ORW when you are in school? | • Yes<br>• No |
| C3.3 *[Using the example resources as props and thinking about now]*<br><br>Do you like using ORW (Y/N)? Why? | |

| |
|---|
| C3.4 Tell me about when you first had Online Reading World in your class/at home… |
| Did you like/not like it then too? Have you always liked/not liked it? |
| C3.5 Did this make you want to read? |
| C3.6 Do you like them more, less or the same now? |
| C3.7 Why is that? |
| C3.8 Do you like the same things about it as *in year 1 (with teacher…)* ? |

| **C4. Quizzes** |
|---|
| C4.1 *[Using the example resources as props and thinking about now]* <br><br>Do you like doing the quizzes (Y/N)? Why? |
| C4.2 Tell me about when you first had Online Reading World in your class/at home and you did the quizzes… <br><br>Did you like/not like them then too? Have you always liked/not liked them? |
| C4.3 Do you like them more, less or the same now? Why? |
| C4.4 Do you like the same things about it as *in year 1 (with teacher…)* ? |
| C4.5 How do you feel about the quizzes when you are reading the book? |
| C4.6 Do they change how much you like the book? |
| C4.7 Tell me about when you get a question right |

| **C5. Rewards** |
|---|
| C5.1 *[Using the example resources as props and thinking about now]* <br><br>Do you getting the rewards (Y/N)? Why? |
| C5.2 Tell me about when you first had Online Reading World in your class/at home and receiving rewards… <br><br>Did you like/not like them then too? Have you always liked/not liked them? |
| C5.3 Do you like them more, less or the same now? Why? |
| C5.4 Do you like the same things about it as *in year 1 (with teacher…)* last year? |
| C5.5 How do you feel about getting rewards when you are reading the book? |
| C5.6 Do they change how much you like the book? |
| C5.7 Tell me about when you get a reward |

| **C6. Avatars** |
|---|
| C6.1 *[Using the example resources as props and thinking about now]* <br><br>Do you the avatars (Y/N)? Why? |
| C6.2 Tell me about when you first had Online Reading World in your class/at home and saw the avatars… <br><br>Did you like/not like them then too? Have you always liked/not liked them? |
| C6.3 Do you like them more, less or the same now? Why? |
| C6.4 Do you like the same things about them as *in year 1 (with teacher…)* ? |
| C6.5 How do you feel about the avatars when you are reading the book? |
| C6.6 Do they change how much you like the book? |
| C6.7 Tell me about when you see an avatar |

| Section D. Recommendations and closing |
| --- |
| D1. Would you tell a friend in another school to read this book (Y/N)? Why/Why not? |
| D2. Would you tell a friend in another school to have a go on ORW (Y/N)? Why/Why not? |
| D3. Would you tell a friend in another school to have a go on the quizzes (Y/N)? Why/Why not? |
| D4. Is there anything else you would like to tell me? |

**Thank you for talking to me today** ☺

**Appendix 5.**

## 2. Parent interviews

**Purpose (for researcher):**

- *To explore whether parents continue to perceive that Bug Club reading materials engage and motivate their children to read.*
- *To explore whether parents continue to perceive that extrinsic rewards on the Online Reading World lead to the development of positive reading engagement and intrinsic motivation.*
- *To evaluate whether initial enthusiasm and interest are maintained long term.*

**Introduction and repeat informed consent assurances**

*My name is _____.  I am in school today to find out about what you think about Bug Club a year after the school began to use it.*

*Please can I ask you about what you think about Bug Club?*

*It will take about 15 minutes, but we can stop the interview at any time.*

*(If yes)  You can stop answering the questions whenever you want and if you don't want to answer a question, that's fine.*

**[Parent to complete consent form]**

**[Researcher to note whether we are speaking to their child also]**

| Section A: Profile and warm up | |
|---|---|
| **A1. Parent name** | [Researcher ensure this is on the consent form] |
| **A2. Child's name** | [Researcher to note against pupil interviewee list] |
| **A3. Child's age** | |
| **A4. Child's gender** | |
| **Warm up** | Tell me about a reading activity or book that you and your child enjoy doing together? |

| Section B: Perception of their child's attitudes to reading | |
|---|---|
| **B1. Which of these sentences sounds like your child?**<br><br>[Researcher to make a note for each parent] | • Really good at reading<br><br>• Good at reading<br><br>• OK at reading<br><br>• Not good at reading<br><br>• Really struggles with reading |
| **B2. Which of these sentences sounds like your child?**<br><br>[Researcher to make a note for each parent] | • Really likes reading<br><br>• Likes reading<br><br>• Neither likes nor dislikes<br><br>• Doesn't like reading<br><br>• Really doesn't like reading |
| **B3. Has this always been the case** – would you have described your child as so last year? | |
| **B4.** *[If there has been a change]* **Why do you think this has happened?** | |

| Section C: Parent views on Online Reading World |
|---|
| **C1. Please can you tell me about what the school offers as reading activities and support for reading at home?** (Prompt: hard copy books, other schemes, ORW, support sessions) |
| **C2. Online Reading World** |
| C2.1 Tell me about when you first started having access to the Online Reading World? |
| C2.2 Was your child keen to use it? |
| C2.3 How often did they read? |
| C2.4 Did you read together? |
| C2.5 Did they read by themselves? |
| C2.6 What do you think made it so attractive to them/or/ Why do you think they didn't want to do it? |
| C2.7 What did you think about it? |
| C2.8 Let's think about now – what do you think your child thinks now? |
| C2.9 Do they want to go on it more? Less? Or the same? |

| | |
|---|---|
| C3.2 Are they still enjoying it? Has there been a change in their behaviour towards reading? Why is that, do you think? | |
| C2.10 Do you think it has changed their reading habits generally? (i.e. do they enjoy books in general more? Or has it increased online reading activities but not reading generally?) | |
| Probe by different types of children – e.g. parents who identified their children reluctant readers, confident readers etc. | |

**C3. Quizzes**

| | |
|---|---|
| 3.1 Does your child like to do the quizzes? | • Yes<br>• No |
| 3.2 Tell me about the reasons you think they like/don't like the quizzes? | |
| 3.3 Do you think it affects how your child feels about reading? | • Yes<br>• No |
| 3.4 In what ways? | |
| 3.5 Do you think your child likes the quizzes more now? Less now? Or the same? | |
| 3.6 Why is that, do you think? | |

**C4. Rewards**

| | |
|---|---|
| C4.1 Does your child like receive the rewards? | • Yes<br>• No |
| C4.2 Tell me about the reasons you think they like/don't like the rewards? | |
| C4.3 Do you think it affects how your child feels about reading? | • Yes<br>• No |
| C4.4 In what ways? | |
| C4.5 Do you think your child likes the rewards more now? Less now? Or the same? | |
| C4.6 Why is that, do you think? | |

**C5. Avatars**

| | |
|---|---|
| C5.1 Does your child like to do the quizzes? | • Yes<br>• No |
| C5.2 Tell me about the reasons you think they like/don't like the quizzes? | |
| C5.3 Do you think it affects how your child feels about reading? | • Yes<br>• No |
| C5.4 In what ways? | |
| C5.5 Do you think your child likes the quizzes more now? Less now? Or the same? | |
| Why is that, do you think? | |

| Section D. Recommendations and closing | |
| --- | --- |
| Out of 10, with 10 being the highest, how likely are you to recommend… | 1  2  3  4  5  6  7  8  9  10 |
| D1.1 ORW, overall, to parents of children in other classes? | [Record for each parent] |
| D1.2 Why? | |
| D2.1 Quizzes, to parents of children in other classes? | [Record for each parent] |
| D2.2 Why? | |
| D2.1 Rewards, to parents of children in other classes? | [Record for each parent] |
| D3.2 Why? | |
| D2.1 Avatars, to parents of children in other classes? | [Record for each parent] |
| D4.2 Why? | |
| D5. What would you say to recommend Online Reading World? | |
| D6. Is there anything else you would like to tell me? | |

**Thank you for talking to me today** ☺

**Bug Club case study interview schedules**

| School | |
|---|---|
| Date | |
| Researcher | |

**Research question 3: What do teachers/classes and schools with the greatest attainment gains do with BC materials? (What does effective implementation look like?)**

This pack includes a semi structured telephone interview schedules to be carried out with teachers of the classes with the highest reading gains.

## Introduction and repeat informed consent assurances

Hello, I'm _____ part of the Pearson Efficacy and Research Team/ UCL Institute of Education.
I am calling about the interview we scheduled for the Bug Club Research. Is this still a convenient time to talk?

Thank you for agreeing to take part in the study, run by Pearson, supported by the UCL Institute of Education.

You have been identified as one of the teachers whose classes made better than average progress in reading last year.

We are interested in finding out how **you** use Bug Club in order to explore the specific things that teachers do, that can be linked with pupil progress.

| Section A: profile and warm up | |
| --- | --- |
| A1. Name | |
| A2. Gender | |
| A3. Age | |
| A4. Warm up – general BC questions | |
| A4.1 How have you been using BC? | |

We have sent through consent forms and the goals of this interview.

Would you like me to explain any of the goals of our research? Or are you happy to begin the interview?

| **Section B: Impact** |
|---|
| B1 Impact on teaching |
| B1.1 What have you been doing differently? How has your practice changed? What about BC have you found most supportive in improving your teaching? |
| B1.2 Do you think you have developed new skills through using Bug Club? |
| B1.3 (If yes) Tell me about those skills. |
| B2 Impact on pupils |
| B2.1 What impact has it had on the pupils? [If not already covered] probe:<br><br>   o   motivation<br><br>   o   engagement<br><br>   o   reading mileage<br><br>   o   pupil attainment |

o enthusiasm

B3. Does BC help all pupils equally or are there specific groups of students that it works better for?

## Section C: Teacher good practice

C1   How do you support children finding literacy learning more challenging?

C2 Why do you think the children in your class did so well?

C3 What do you think are the most important things about ensuring good progress for all children?  Could you narrow it down to 5 things or fewer?

| Section D: Personal characteristics | | | | | |
|---|---|---|---|---|---|
| D1 How long have you been teaching? | 3 years or less | 4-6 years | 7-10 years | 11-14 years | More than 15 years |
| D2 How long have you been in Key stage 1? | 3 years or less | 4-6 years | 7-10 years | 11-14 years | More than 15 years |
| D3 How long have you been at this school? | 3 years or less | 4-6 years | 7-10 years | 11-14 years | More than 15 years |
| D4 Have you done additional professional development in Literacy? | Masters | Diploma | Intervention training (Reading Recovery, ELS, Phonics Counts, BRP for example) | RSA or dyslexia qualification | Anything else? |
| D5 Leadership roles held in school? | Y    N | (If yes, add description) | | | |
| D6 Subject specialism? | Y    N | (If yes, add description) | | | |
| D7 Part-time or full-time class teacher? | PT    FT | | | | |

| Section E: BC materials used last year | | | | | |
|---|---|---|---|---|---|
| | **How often? No. of days per week** | **For all pupils?** | **If No** | **Do you use the Teacher Support Materials for this element?** | **Do you adapt them? If yes, in what ways** |
| E1 Bug Club Readers - print version | 0  1  2-3  4 5 | Y        N | Which pupil groups do you not use it for?<br>    GaT  SEN  EAL  Other | Y        N | Y        N |
| Notes | | | | | |
| E2 Bug Club Readers - online version | 0  1  2-3  4 5 | Y        N | Which pupil groups do you not use it for?<br>    GaT  SEN  EAL  Other | Y        N | Y        N |
| Notes | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| E3 Phonics Bug - print version | 0  1  2-3  4 5 | Y     N | Which pupil groups do you not use it for?<br>     GaT  SEN  EAL  Other | Y     N | Y     N |
| Notes | | | | | |
| E4 Phonics Bug - online version | 0  1  2-3  4 5 | Y     N | Which pupil groups do you not use it for?<br>     GaT  SEN  EAL  Other | Y     N | Y     N |
| Notes | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| E5 Whole Class phonics lessons on the whiteboard | 0  1  2-3  4 5 | Y       N | Which pupil groups do you not use it for?<br>    GaT  SEN  EAL   Other | Y      N | Y      N |
| Notes | | | | | |
| E6 Online Reading World In the classroom | 0  1  2-3  4 5 | Y       N | Which pupil groups do you not use it for?<br>    GaT  SEN  EAL   Other | Y      N | Y      N |
| Notes | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| E7 Online Reading World<br>For home reading | 0   1   2-3   4  5 | Y       N | Which pupil groups do you not use it for?<br>    GaT   SEN  EAL   Other | Y        N | Y        N |
| Notes | | | | | |
| E8 Grammar and Spelling Bug | 0   1   2-3   4  5 | Y       N | Which pupil groups do you not use it for?<br>    GaT   SEN  EAL   Other | Y        N | Y        N |
| Notes | | | | | |

## Section F: Implementation

| |
|---|
| F1 Did you use the Teacher reports?　Y　　N |
| F1.1 How were they helpful?/Why not? |
| F2 Did you use the Platform to see how often children read at home?　Y　　N |
| F2.1 How were they helpful?/Why not? |
| F3 Did you use the guided reading notes?　Y　　N |
| F3.1 How were they helpful?/Why not? |

| |
|---|
| F4 Did you use the Photocopiable Masters?    Y     N |
| F4.1 How were they helpful?/Why not? |
| F5 Did you use the Phonics Bug lesson plans?    Y     N |
| F5.1 How were they helpful?/Why not? |
| F6 Did you use Tech support from Pearson?     Y     N |
| F6.1 How was it helpful?/Why not? |

| Section G: Integrating BC with other resources | | | | |
|---|---|---|---|---|
| **Thinking about what else you use** | **How often? No. of days** | **For all pupils?** | **If No** | **Why did you chose to use these additional materials?** |
| G1 Have you used other printed story books for guided reading? | 0   1   2-3   4  5 | Y          N | Which pupil groups do you not use it for? GaT   SEN  EAL   Other | |
| Notes | | | | |
| G2 Have you used other printed non-fiction books for guided reading? | 0   1   2-3   4  5 | Y          N | Which pupil groups do you not use it for? GaT   SEN  EAL   Other | |
| Notes | | | | |

| | | | | |
|---|---|---|---|---|
| G3 Have you used other printed phonics books for guided reading? | 0  1  2-3  4 5 | Y      N | Which pupil groups do you not use it for? GaT  SEN  EAL  Other | |
| Notes | | | | |
| G4 Have you used other ipad or ereader materials? | 0  1  2-3  4 5 | Y N | Which pupil groups do you not use it for? GaT  SEN  EAL  Other | |
| Notes | | | | |
| G5 Have you used other teacher support materials to support literacy teaching? | 0  1  2-3  4 5 | Y N | Which pupil groups do you not use it for? GaT  SEN  EAL  Other | |
| Notes | | | | |

| | | | |
|---|---|---|---|
| G6 Have you used other materials for Home reading? | 0  1   2-3   4  5 | Y<br>N | Which pupil groups do you not use it for?<br>GaT   SEN  EAL   Other |
| Notes | | | |
| G7 Have you used other materials to support the teaching of phonics? | 0   1   2-3   4  5 | Y        N | Which pupil groups do you not use it for?<br>GaT   SEN  EAL   Other |
| Notes | | | |
| G8 Have you used other materials to support the teaching of spelling or grammar?<br>(note whether the respondent is referring to spelling or grammar, or both) | 0   1   2-3   4  5 | Y<br>N | Which pupil groups do you not use it for?<br>GaT   SEN  EAL   Other |
| Notes | | | |

| Section H: Using BC materials in the classroom | | | | |
|---|---|---|---|---|
| | **How often?<br>No. of days** | **For all pupils?** | **If No** | **Do you think the materials are effective for this purpose?<br>Why/why not?** |
| H1 Guided reading using Bug Club Readers | 0  1  2-3  4  5 | Y       N | Which pupil groups do you not use it for?<br>  GaT   SEN  EAL   Other | Y       N |
| Notes | | | | |
| H2 Guided reading using Phonics Bug books | 0  1  2-3  4  5 | Y       N | Which pupil groups do you not use it for?<br>  GaT   SEN  EAL   Other | Y       N |
| Notes | | | | |

| H3 Guided reading using ipads/online reading world | 0  1  2-3  4  5 | Y      N | Which pupil groups do you not use it for?<br>    GaT   SEN  EAL   Other | Y      N |
|---|---|---|---|---|
| Notes | | | | |
| H4 Independent reading using Bug Club Readers | 0  1  2-3  4  5 | Y      N | Which pupil groups do you not use it for?<br>    GaT   SEN  EAL   Other | Y      N |
| Notes | | | | |
| H5 Independent reading using Phonics Bug books | 0  1  2-3  4  5 | Y      N | Which pupil groups do you not use it for?<br>    GaT   SEN  EAL   Other | Y      N |
| Notes | | | | |

| | | | | |
|---|---|---|---|---|
| H6 Independent reading using comics for phonics | 0  1  2-3  4 5 | Y        N | Which pupil groups do you not use it for?<br>    GaT   SEN  EAL   Other | Y      N |
| Notes | | | | |
| H7 Independent reading using the online reading world | 0  1  2-3  4 5 | Y        N | Which pupil groups do you not use it for?<br>    GaT   SEN  EAL   Other | Y      N |
| Notes | | | | |
| H8 Home reading | 0  1  2-3  4 5 | Y        N | Which pupil groups do you not use it for?<br>    GaT   SEN  EAL   Other | Y      N |
| Notes | | | | |

| H9 Phonics lessons (the interactive whiteboard programme) | 0   1   2-3   4  5 | Y        N | Which pupil groups do you not use it for?<br>    GaT   SEN  EAL   Other | Y        N |
|---|---|---|---|---|
| Notes | | | | |

## Section J: Planning and monitoring

J1 Talk me through how you plan for literacy learning across a week?

J2 How do you assess and monitor progress on a day to day basis?

J3 Do you have a teaching assistant in your classroom?    Y    N

J3.1 How do you plan for this?

J4 How do you communicate with parents?

## Section K:  Interview Closure

K1 That concludes the questions I have to ask you. Do you have any questions you would like to ask me?

K2 Are there any other comments you would like to make about Bug Club? Are there any comments you would like to make on topics I have not covered?

*On behalf of Pearson I would like to thank you for your time this morning/afternoon, and for your thoughts and insights.*

*We hope will be in touch at the end of the end of summer term to share findings of Year 2 of the study with you and your school.*

**Appendix 7.**

Home | Studies | Panel Reports | Dynamic Reporting

krystina.dunn@pearson.com | Preferences | Log Out

**Pearson Panel**

Notice - Remember to check the Script Library for new and updated scripts.

Questionnaire 1 Jan 2015 (all schools) [2.0] - English (UK)

Study is not locked.

Status   Details   Incentives   Questionnaire   Quotas   Languages   Preview   Sampling/Deployments   Reports   Imports   Exports   Assets

Show Language : English (UK) (default)   [PRINTABLE VERSION...]   [SPELL CHECK...]

Preview of : Bug Club Questionnaire 1 Jan 2015

Current Date:03/19/2015 17:49:57

Intro_Page

Intro

This teacher questionnaire should take no more than **10 minutes** to complete.

It aims to track potential changes in teacher practices and perceptions.

Click next to start the questionnaire.

page_0

name

**Please enter school name_first name and surname**
E.g ChurchLanePrimary_Rachel Smith

nameCopy1

**Email address**
ONLY FOR TRACKING PURPOSES FOR THIS STUDY

please_tick

**Select all that apply**

**Class teacher for...**

☐ Year 1

☐ Year 2

yearsCopy1

**Gender**

○ Male

○ Female

years

**Years of teaching experience**

○ Less than 1

○ 1-2

○ 3-5

○ 6-10

○ More than 10

Page1

oneCopy3

**Select the comment that represents your view on the following statements**

| | Strongly Agree | Agree | Neither Agree nor Disagree | Disagree | Strongly Disagree | Don't Know |
|---|---|---|---|---|---|---|
| In my class, pupils enjoy reading in school | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ |
| In my class, almost all pupils enjoy the books they read as part of guided reading lessons | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ |
| In my class, pupils read at least five books a week at school | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ |
| In my class, pupils read at least five books a week at home | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ |
| In my class, there are some pupils who read mainly with the teaching assistant | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ |
| In my class, almost all parents engage with the home reading programme | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ |

*Comment*

**Add a comment if you wish to expand on any of your responses above**
(Optional)

---

Page_2Copy1

oneCopy2

**Select the comment that represents your view on the following statements**

| | Strongly Agree | Agree | Neither Agree nor Disagree | Disagree | Strongly Disagree | Don't Know |
|---|---|---|---|---|---|---|
| I feel confident using electronic texts on tablets (e.g. ipads) in guided and independent reading provision | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ |
| I feel confident with the teaching of reading to 5, 6 and 7 year olds | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ |
| I feel confident when using fiction books with children in Key Stage 1 (Foundation phase in Wales; P2 and P3 in Northern Ireland and Scotland) | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ |
| I feel confident when using non-fiction books with children in Key Stage 1 (Foundation phase in Wales; P2 and P3 in Northern Ireland and Scotland) | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ |

CommentCopy2

**Add a comment if you wish to expand on any of your responses above**
(Optional)

---

Page_2Copy3

oneCopy4

**Select the comment that represents your view on the following statements**

| | Strongly Agree | Agree | Neither Agree nor Disagree | Disagree | Strongly Disagree | Don't Know |
|---|---|---|---|---|---|---|
| A reading scheme is crucially important in order to teach effectively | ○ | ○ | ○ | ○ | ○ | ○ |
| I understand the rationales behind the teaching methods I use | ○ | ○ | ○ | ○ | ○ | ○ |
| I am able to effectively differentiate in reading for the less-able children | ○ | ○ | ○ | ○ | ○ | ○ |

CommentCopy3

**Add a comment if you wish to expand on any of your responses above**
(Optional)

Page_2Copy4

oneCopy4

**Select the comment that represents your view on the following statements**

| | Strongly Agree | Agree | Neither Agree nor Disagree | Disagree | Strongly Disagree | Don't Know |
|---|---|---|---|---|---|---|
| In my class, I use different reading schemes for weaker readers | ○ | ○ | ○ | ○ | ○ | ○ |
| In my class, I use a range of multimedia to support my literacy teaching | ○ | ○ | ○ | ○ | ○ | ○ |
| In my class, I regularly use the teacher support materials for the books/scheme we have in school | ○ | ○ | ○ | ○ | ○ | ○ |

CommentCopy4

**Add a comment if you wish to expand on any of your responses above**
(Optional)

Page_2Copy5

oneCopy5

**Select the comment that represents your view on the following statements**

| | Strongly Agree | Agree | Neither Agree nor Disagree | Disagree | Strongly Disagree | Don't Know |
|---|---|---|---|---|---|---|
| In my class, there is a difference in levels of motivation to read between boys and girls | ○ | ○ | ○ | ○ | ○ | ○ |
| In my class, the books reflect the cultural backgrounds of the children | ○ | ○ | ○ | ○ | ○ | ○ |

CommentCopy5

**Add a comment if you wish to expand on any of your responses above**
(Optional)

---

Page_2Copy2

nineteen

**What reading schemes do you use?**
Please list all materials

---

last

**What reading opportunities do you provide for your class?**
Please select all that apply

- [ ] Guided reading with story books
- [ ] Guided reading with non-fiction materials
- [ ] Guided reading with decodable texts
- [ ] Shared reading
- [ ] Independent reading
- [ ] Phonics lessons
- [ ] Reading for topic work
- [ ] Time to choose from the class library (free reading)
- [ ] Multi-media resources
- [ ] School library
- [ ] Local library
- [ ] Comics and magazines
- [ ] Other (specify below)

---

other

Please be as specific as possible

---

endtext

**TERMINATE**: Thank you for completing the teacher questionnaire.

END INTERVIEW with status : Completed

Your Time Zone : Thursday, March 19, 2015 5:52 pm (GMT) Greenwich Mean Time : Dublin, Edinburgh, Lisbon, London | change

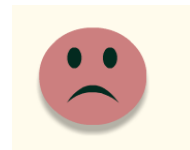© 2015 Vision Critical. All Rights Reserved.

**Appendix 8.**

'I am happy to talk to_____ about
reading and Bug Club'

My Name is _____

'I am happy to talk to_____ about
reading and Bug Club'

My Name is _____

'I am happy to talk to_____ about
reading and Bug Club'

My Name is _____

**Appendix 9.**

**PEARSON**

**IoE** LONDON  Leading education and social research
Institute of Education
University of London

# Bug Club Case Studies

**What will the case study visit entail?**

Researchers from Pearson and/or IoE will come to the school for one day to complete the following:
- At least 4 interviews with staff Head teacher, Literacy co-ordinator and a minimum 2 KS1 teachers
- 15 – 20 individual pupil interviews – ==some of these pupils will be those who were assessed==
- 3- 4 Classroom observations (literacy activities using Bug Club)
- 2 parent focus groups (5-10 parents per group) or individual discussions if necessary. Please find a suggested letter to parents on Page 2 for your convenience and if you wish to use it.

Below is a timetable of what the day could look like. Krystina will liaise with you to finalise the timetable around your school day i.e teacher's availability and breaks.

| Time | Researcher 1 | | Researcher 2 | |
|---|---|---|---|---|
| | **Activity** | **Duration** | **Activity** | **Duration** |
| 09:00 | Classroom observation 1 | 30m | 1:1 pupil interviews (15-20 pupils) *Ideally during classroom observations a researcher will speak to pupils* | 2-3h |
| 09:30 | Teacher de-brief | 15-25m | | |
| 10:00 | Classroom observation 2 | 30m | | |
| 10:30 | Teacher de-brief | 15-25m | | |
| 11:00 | Classroom observation 3 | 30m | | |
| 11:30 | Teacher de-brief | 15-25m | | |
| 12:00 | LUNCH | 1h | LUNCH | 1h |
| 13:00 | Literacy Co-ordinator interview | 45m | Teacher interview | 45m |
| 14:00 | Head teacher interview | 45m | Parent focus group 1 (5-10 parents) | 20-30m |
| 15:00 | Teacher interview | 45m | Parent focus group 2 (5-10 parents) | 20-30m |

**What do I need to do to prepare and when?**

- ☐ Indicate the school's availability via this link    -    Wed 22 April 2015

- ☐ Send draft case study visit schedule to Krystina    -    Wed 29 May 2015

- ☐ Finalise case study visit schedule by liaising with Krystina at least 1 week before the visit    -    Fri 24 April 2015

**Appendix 10:**

**Letter to parents – Case study**

April 2015

Dear parents of pupils in Years 1 and 2,

As you will already be aware we are taking part in a project with Pearson to look at the effects of the Bug Club Reading Service on your children's reading. The project is being carried out by the Institute of Education, University of London and Pearson, and involves schools across the United Kingdom.

Our school has been chosen as a case study school for this project and we would like to invite you to take part in a focus group on *<insert date>.* This is an exciting opportunity for you to talk through your involvement with the Bug Club reading programme, tell us what you think about the materials, how you and your child use them and if you think there is anything that can be improved.

If you are able to participate please let us know by *<insert date>.*

If you have any queries, please contact me at the school.

Yours sincerely

Headteacher