



BoomReader

Data and presentations focusing on and supporting policy concerns

Don Passey
Professor of Technology Enhanced Learning
Department of Educational Research
Lancaster University

August 2024



Contents

1.	Executive Summary	3
2.	BoomReader in a Nutshell	5
3.	This Report	6
4.	Reading and Supporting Reading – Contemporary Issues and Concerns	7
5.	Key Questions for Policy	11
6.	Current Data and Presentations addressing Contemporary Policy Concerns	12
7.	Future Data and Presentations addressing Further Policy Concerns	16



1. Executive Summary

Squirrel Learning is a school improvement services company, co-founded by a previous head of Wolverhampton City Council Education Technology Services, focusing on vital needs of schools and wider education policy, specialising in education technology applications and consultancy.

As a part of its portfolio, Squirrel Learning has developed an innovative platform (BoomReader¹) to support the monitoring of reading by young people.

This report considers the issues and concerns that are currently raised about reading at early ages. It explores the potential of data sources and dashboard presentations offered by Boom Reader by focusing on those issues and concerns in more detail at policy levels (school, local or national) that could assist in addressing these concerns currently and in the future.

The BoomReader platform supports practices that are concerned with enabling teachers, parents and guardians to effectively record and monitor the reading of young people, but also enabling the recording and monitoring to be accessible to the young people themselves. BoomReader is created as a 'web-based application' with a related 'parent app', an approach deliberately taken to avoid the main interface as an application (app) due to complexities that might arise with pupils accessing via various devices. With a web-based version, pupils can login via any connected device.

Reading is a key skill required by all young people, but the development and practice of reading has sometimes been recognised as a challenge and a potential issue. This platform, with its associated GenAI engine and dashboard presentation, offers insights that could positively support how issues raised in policy documents and research literature might be considered and addressed at school, local and national levels.

The BoomReader platform allows reading at young ages to be monitored regularly and in detail. Where levels of reading fall, it is possible to identify when and how these are happening, so that appropriate support might be put in place. Reading skills of children from different backgrounds can be monitored, for those gaining free school meals (FSMs), receiving pupil premium, or for those in different ethnic groups, highlighting challenging words that might be limiting reading achievement.

The Boom Reader platform allows presentations to be viewed regularly, daily or weekly. Falling reading trends can be easily identified so that appropriate daily treatment can be discussed and introduced to address reading weaknesses effectively. Independence of reading outside school can be monitored. Lowest attaining readers can be easily identified, so that appropriate support can then be put in place. The performance of girls can be compared to boys. A potential shift away for reading for literary purposes compared to reading for informational purposes can be identified. Book titles as well as levels of reading can be viewed regularly, and trends can be seen if these show a change in reading source patterns. When reading levels fall, discussions within the schools and with parents can be put in place so that practices to support higher levels of reading can be introduced.

¹ <https://www.boomreader.co.uk/>



Working on an estimate of primary school pupil numbers in the UK as 5,500,000², the total number of pupils registered in the BoomReader system approximates to some 7.7%. For trend analysis purposes, this number is likely to provide reasonable estimates, but for England, where the total number of primary schools registered (2,430) is compared to the total number existing (16,764³), 14.5% is likely to offer a strong trend estimate. This would also be true at each year group level.

There are additional features that could be added fairly readily to the existing platform, which would support additional presentations of data for policy purposes. For example, given that postcodes for schools are recorded in the registration details, these postcodes could, through an appropriate algorithm, identify the nation and local authority. An application programming interface (API) could be developed to connect with data provided by the Office for National Statistics⁴, which could then provide comparative and trend data for rural or urban location, or socio-economic status, for example. Similarly, an API to connect to the Getting Information about Schools (GIAS⁵) for England and related data sets for other nations could enable comparisons and trends related to performance and achievement.

Given that reading practice is known to be a continuing key issue for many young people, and given the success of BoomReader in engaging with so many schools at this stage, providing an interface that relates to pupils, parents and teachers (see the example in Figure 1), the further development of BoomReader to support school, local and national policy could support additional key opportunities to further enhance ways to address this challenge.



Figure 1: An example of the pupil-friendly BoomReader interface

² <https://explore-education-statistics.service.gov.uk/find-statistics/education-and-training-statistics-for-the-uk>

³ <https://explore-education-statistics.service.gov.uk/data-tables/fast-track/619504bd-65e7-42bf-b0bd-08dc6f35f09f>

⁴ <https://explore-local-statistics.beta.ons.gov.uk/>

⁵ <https://get-information-schools.service.gov.uk/responsibilities>

2. BoomReader in a Nutshell

Squirrel Learning is a company based out of the University of Wolverhampton Science Park that was co-founded by a previous head of Wolverhampton City Council Education Technology Services. As a school improvement services company, the background and experience that the current Director of Squirrel Learning brings, enables the company to clearly focus on vital needs of schools and education policy, specialising in education technology applications and consultancy.

As a part of its portfolio, and arising from identified challenges that were raised and reported by teachers and head teachers in schools, Squirrel Learning has developed an innovative platform (BoomReader⁶) to support the monitoring of reading by young people (illustrated in Figure 2). As the BoomReader website states: “Schools have been asking for a comprehensive solution to track reading engagement, and we’ve answered the call! Our user-friendly dashboard provides a whole-school view, along with year group and class breakdowns, giving educators the insights they need at a glance”. BoomReader has already been recognised for its innovation and potential to support critical educational practices, having been awarded Best Educational Application in 2021 at the British Educational Training and Technology (BETT) Show (see Figure 3).

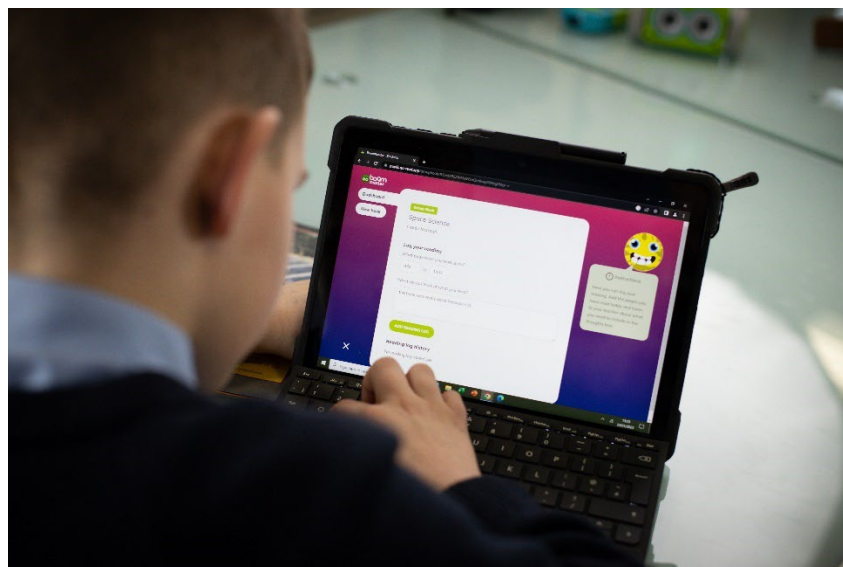


Figure 2: A pupil records a reading session in BoomReader



Figure 3: Record of the BETT Awards Winner 2021

⁶ <https://www.boomreader.co.uk/>



3. This Report

This commissioned report considers how current and future uses of the platform and dashboard might address policy concerns – concerns about reading from early ages that are raised both in policy documents and in relevant research literature. The report takes an exploratory study approach. It considers the issues and concerns that are currently raised in policy documents and in the research literature, and it explores the potential of data sources and dashboard presentations offered by Boom Reader to focus on those issues and concerns in more detail at policy levels (school, local or national), which might then assist in addressing these issues, currently and in the future.

The BoomReader platform supports practices that are concerned with enabling teachers, parents and guardians to effectively record and monitor the reading of young people, but also enabling the recording and monitoring to be accessible to the young people themselves. The BoomReader platform stores a variety of data that are non-personal and non-identifiable, and while many schools have taken up the use of the platform, the useful insights that would come from the data are just becoming realised through the development of a dashboard populated through a generative artificial intelligence (GenAI) system. Given that reading is a key skill required by all young people, and that the development and practice of reading has sometimes been recognised as a challenge and a potential issue, this platform with its associated GenAI engine and dashboard presentation offers insights that could positively support the addressing of points raised by policy documents and research literature that are of recognised concern at school, local and national levels. Potential uses and future developments of the GenAI system and dashboard to support policy (at school, local and national levels) is explored through this commissioned report.



4. Reading and Supporting Reading – Contemporary Issues and Concerns

Reading is recognised as a key need for learning and for engagement with employment, social and societal practices across the age range. Reading at young ages is recognised as being particularly important as this early stage of engagement can affect later practices as well as wider skills and competencies. For example, Mulcahy, Bernardes and Baars (2016)⁷ stated that: “Research suggests that reading ability affects attainment in all subjects. A study of 16 year old students found a relationship between basic reading ability and academic success. This relationship strengthens in most education systems when pupils are around 8 years old as they move from ‘learning to read’ to ‘reading to learn’ (Espin and Deno, 1993)” (p.5). They stressed (p.10) that: “The detrimental effect of poor reading ability continues throughout life... Poor readers are more likely to be unemployed... tend to earn less and receive fewer training and promotion opportunities... make less use of preventative health services and engage in more risky health behaviour... experience more health issues and illness but are less likely to understand and manage their treatment... are more likely to exhibit delinquent, antisocial behaviours and are more likely to offend... experience lower life satisfaction and lower wellbeing”.

Similarly, and more recently, The Reading Agency (2023)⁸, reporting from the Department for Education (DfE) 2016 strategy⁹, stated that: “Students are less able to learn other curricula if they do not develop sufficient reading skills by the middle of primary school” (n.p.), and referencing McGrane et al. (2017)¹⁰ stated that: “Only 35% of 10-year-olds in England report that they like reading ‘very much’” (n.p.). The Reading Agency also stated, from Jerrim and Shure’s (2016)¹¹ report, that “By the final year of compulsory schooling in England, the reading skills of children from disadvantaged backgrounds are on average almost three years behind those from the most affluent homes” (n.p.), and from the Organisation for Economic Co-operation and Development (OECD, 2010)¹² report, “Children who read books often at age 10 and more than once a week at age 16 gain higher results in maths, vocabulary and spelling tests at age 16 than those who read less regularly” (n.p.). Links between reading (established at a young age) and later life employment, health and wellbeing, and connections to communities are also highlighted within this document.

⁷ Mulcahy, E., Bernardes, E., and Baars, S. (2016). The relationship between reading age, education and life outcomes. LKMco. <https://cfey.org/reports/2016/12/the-relationship-between-reading-age-education-and-life-outcomes/>

⁸ <https://readingagency.org.uk/our-work/our-research/reading-facts/>

⁹ DfE. (2016). DfE strategy. 2015-20: World-class education and care. <https://assets.publishing.service.gov.uk/media/5a801b00e5274a2e8ab4e373/DfE-strategy-narrative.pdf>

¹⁰ McGrane, J., Stiff, J., Baird, J-A., Lenkeit, J., and Hopfenbeck, T. (2017). Progress in International Reading Literacy Study (PIRLS): National Report for England. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/664562/PIRLS_2016_National_Report_for_England- BRANDED.pdf

¹¹ Jerrim, J., and Shure, N. (2016). Achievement of 15-Year-Olds in England: PISA 2015 National Report. DfE. https://www.researchgate.net/publication/366323788_Achievement_of_15-Year-Olds_in_England_PISA_2015_National_Report

¹² OECD. (2010). PISA 2009 Results: Learning to Learn: Student Engagement, Strategies and Practices. <https://www.oecd-ilibrary.org/docserver/9789264083943-en.pdf?expires=1721983470&id=id&accname=guest&checksum=6B237826EBFF1AA75F85288E01DBBF48>

It is known that not all young people attain the levels of reading that are deemed as being appropriate for their stages of development and application. A recent report by the Office for Standards in Education, Children's Services and Skills (Ofsted, 2024)¹³ stated that: "However, over 1 in 4 pupils still move to secondary school without having met the expected standard in the key stage 2 national reading test" (n.p.). Later in the same report, Ofsted stated that, in relation to key stages 2 and 3: "Few pupils receive intensive daily teaching to address weaknesses in word reading, despite this being an urgent priority. Pupils who cannot read well at the start of secondary school are likely to find it increasingly difficult to access the full curriculum. These pupils are more likely to be from disadvantaged backgrounds. It is therefore essential that schools consider how and when to provide pupils with these opportunities" (n.p.), adding that: "some schools do not make sure that all pupils have enough opportunities to hear texts being read aloud and to read often, with increasing independence" (n.p.). To address pupil weaknesses, as the report stated: "In one school, leaders focus on the lowest attaining 20% of readers, with early morning interventions, additional reading and half-termly checks" (n.p.).

Recent analysis of the Progress in International Reading Literacy Study (PIRLS) 2021 results by Lindorff, Stiff and Kayton (2024)¹⁴ reported that: "England's average overall reading performance has not changed significantly compared to most previous PIRLS cycles, including PIRLS 2016", and "Between 2011 and 2016 there was a small increase in the percentage of pupils achieving the Low, Intermediate and High Benchmarks in England. [But.] Since 2016, performance at each of the International Benchmarks in England has seen no statistically significant changes" (p.6). However, the report also stated that: "Girls still outperform boys by 10 points on average in PIRLS 2021, but this is lower than in previous cycles" and that "The gap between the lowest-scoring and highest-scoring pupils in England has also reduced over time... this seems to be to be the result of increases in performance amongst the lowest-attainers, while high-attainers' average score has remained relatively stable" (pp.6-7). The report further detailed that: "Between 2016 and 2021, the average reading achievement of year 5 pupils in England has remained stable" and that "PIRLS 2021 results reveal that pupils in England perform equally well when reading for Literary purposes and reading for Informational purposes. This is a change from previous cycles where pupils in England typically scored significantly higher on the Literary Scale" (p.8).

The report also identified factors that affected differences in reading outcomes. For example, the report stated that: "The number of books in the home also had a positive impact on PIRLS 2021 reading scores; pupils who reported having over 200 books at home scored approximately 56 points higher in PIRLS than those who reported having 10 or fewer books at home. Eligibility for [free school meals] FSM within the last 6 years was a strong negative predictor of PIRLS achievement. FSM-eligible pupils scored about 23 points lower than their peers who were not FSM eligible, after accounting for other pupil characteristics and school attainment band" (p.9). Additionally, the report stated that: "Being in a mid-high or high performing school, being in the 'Mixed' ethnic group and being born earlier within the school year were also significant positive predictors of PIRLS scores, but not powerful predictors

¹³ Ofsted. (2024). Telling the story: the English education subject report.

<https://www.gov.uk/government/publications/subject-report-series-english/telling-the-story-the-english-education-subject-report>

¹⁴ Lindorff, A., Stiff, J., and Kayton, H. (2024). PIRLS 2021: National Report for England - Research report. DfE.

https://assets.publishing.service.gov.uk/media/661667a756df202ca4ac0538/PIRLS_2021_national_report_for_england.pdf



based on their effect sizes (standardized coefficients). After accounting for all other variables mentioned above, gender and English as an Additional Language (EAL) did not significantly predict PIRLS score” and that “The gap between reading performance of boys and girls in PIRLS is historically wide. In PIRLS 2021, the gender gap is still evident; in all participating education systems girls achieve higher average scores than boys, and in the vast majority of education systems the difference was significant. In England, girls scored, on average, 10 points higher than boys overall. In PIRLS 2011, England had one of the largest gender gaps and the largest gap of any participating European education system. In 2016, this gap narrowed and in 2021 the gap narrowed further. In 2016, the reduction was largely attributable to an average improvement in the performance of boys, up 11 points from 2011. However, in 2021 the narrowing of the gap reflects a decrease of 4 points in the average achievement of girls and a 2-point improvement in boys scores” (p.10).

The Clark, Picton and Galway report (2023)¹⁵ stated, based on the Lindorff, Stiff and Kayton (2024) report that: “These findings highlight the importance of supporting early literacy, access to reading resources and initiatives focusing on children from lower-income backgrounds” (p.1). From their own research, the report highlighted that: “Fewer than 3 in 10 (28.0%) children and young people aged 8 to 18 said that they read daily in their free time in 2023” (p.5) and that “5- to 8-year-olds read a variety of materials, although mainly on paper” (p.7). Furthermore, the report stated that “When asked what would make them want to read, most (38.4%, or 2 in 5) said that having books recommended to them would do this. 1 in 3 said that being given books (32.1%) or having books that represent them (31.5%) would make them want to read. 1 in 4 (23.3%) said that they would read more if their friends or family talked about books, while 1 in 6 (17.6%) said that seeing someone they look up to read or talk about reading would do this” (p.9).

It is recognised in the research literature that encouraging reading is not always easy, particularly for some young people (Clark and Douglas, 2011¹⁶; Clark and Picton, 2020¹⁷), and their interest in reading may reduce over time (DfE Education Standards Research Team, 2012¹⁸). Schools in the past have supported young people in their reading in a number of ways: choice of appropriate reading materials that spark young people’s interests and imagination; direct reading in classrooms; engagement with parents and guardians in reading to their children; and monitoring reading practices.

In summary, the research literature and policy reports on young people’s reading indicates the need for policy makers, whether in schools, local authorities, or government, to consider eleven important points:

¹⁵ Clark, C., Picton, I., and Galway, M. (2023). Children and young people’s reading in 2023. National Literacy Trust. <https://literacytrust.org.uk/research-services/research-reports/children-and-young-peoples-reading-in-2023/>

¹⁶ Clark, C., and Douglas, J. (2011). Young People’s Reading and Writing: An in-depth study focusing on enjoyment, behaviour, attitudes and attainment. <https://files.eric.ed.gov/fulltext/ED521656.pdf>

¹⁷ Clark, C., and Picton, I. (2020). “It makes me feel like I’m in a different place, not stuck inside”: Children and young people’s reading in 2020 before and during the COVID-19 lockdown. <https://literacytrust.org.uk/research-services/research-reports/children-and-young-peoples-reading-in-2020-before-and-during-the-covid-19-lockdown/>

¹⁸ DfE Education Standards Research Team. (2012). Research evidence on reading for pleasure. DfE.

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/284286/reading_for_pleasure.pdf

- Reading at young ages can affect later employment, social and societal practices.
- Reading at around 8 years of age shifts from practices focusing on 'learning to read' to those concerned with 'reading to learn'.
- Reading skills of children from disadvantaged backgrounds tend to lag behind those from more affluent homes.
- Children 5-8-years-of-age tend to read when books are recommended to them, when they match their interests, when they have a positive role model, and when teachers, family and friends talk to them about books.
- Children who read books often by 10 years of age tend to gain higher results later in mathematics, vocabulary and spelling tests.
- Intensive daily treatment to address reading weaknesses is not universally provided in schools.
- Independence in reading is not always encouraged for young readers in schools.
- Supporting the lowest attaining 20% of readers with early morning interventions, additional reading and half-termly checks has been used to address reading weaknesses.
- Girls still outperform boys in reading achievements.
- There is likely to be a shift in reading for literary purposes, which is reducing in comparison to reading for informational purposes.
- Having books at home, receiving FSMs, ethnic group, EAL and gender have all been found to relate to differences in reading achievements.

5. Key Questions for Policy

Key questions for those concerned with policy at school, local or national levels arise from the eleven points highlighted in Section 4 of this report. How can:

- reading at young ages be monitored and supported, so that young people are able to gain effectively in terms of later employment, social and societal practices?
- reading at around 8 years of age be monitored and supported so that all young people can shift from a focus on 'learning to read' to a focus on 'reading to learn'?
- children 5-8-years-of-age be supported to read books recommended to them, that match their interests, to have access to a positive role model, and be supported by teachers, family and friends talking to them about books?
- reading skills of children from disadvantaged backgrounds be monitored and supported?
- children's reading of books at 10-years-of-age be monitored and supported to ensure that this is happening often enough for all children to gain higher results later in mathematics, vocabulary and spelling tests?
- intensive daily treatment to address reading weaknesses be identified effectively?
- independence in reading be monitored and supported for young readers in schools?
- supporting the lowest attaining 20% of readers with early morning interventions, additional reading and half-termly checks to address reading weaknesses be effectively identified?
- the performance of girls compared to boys in reading achievements be effectively monitored and supported?
- a potential shift away from reading for literary purposes compared to reading for informational purposes be identified and addressed?
- the effects of having books at home, receiving FSMs, ethnic group, EAL and gender be identified and addressed?

This report explores how these questions can be addressed and how appropriate interventions and support might be provided. It explores policy potentials of the current and future BoomReader provision, through the two subsequent report sections that focus on two main questions:

1. How can current BoomReader data and its presentation support and potentially address policy concerns and questions at school, regional or national levels?
2. How might additional data available be accessed and used further for presentations that will further support and potentially address policy concerns at school, regional and national levels in the future?



6. Current Data and Presentations addressing Contemporary Policy Concerns

The data that are captured by the GenAI engine in BoomReader are, at a specific pupil level: school; class; year group; pupil name; and reading data (book title, author, publisher, pages read, with time and date stamp, and identified challenging words). Additional data within a school's management information system (MIS) that can be agreed for access within the dashboard views are: ethnicity; gender; pupil premium; and EAL.

These data, where accessible to the GenAI engine, are used to populate a dashboard that shows, for any class, year group, or the whole school:

- Total accounts (numbers of pupils registered with the platform).
- Active accounts (numbers of pupils who have had reading logs added).
- Active parent accounts (numbers of parents who have added reading logs).
- Books completed.

The dashboard that is currently available provides a view for a class teacher, a year group co-ordinator or a senior leader in a school, as shown in Figure 4.

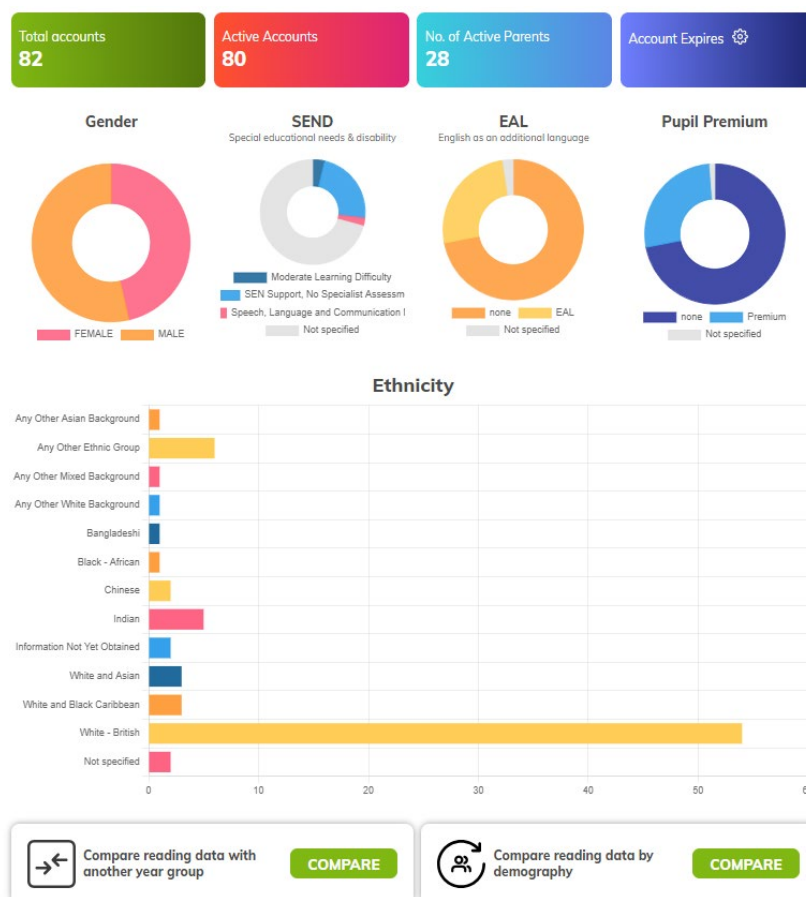


Figure 4: Dashboard overview



From this view, perspectives can be selected and gained about, for example, the proportions of books that are completed in a year, proportions of parents who are involved in actively participating in monitoring their children’s learning, and whether gender, ethnicity, special needs or language might be factors influencing or contributing to proportions arising or in terms of outcomes in any ways.

A timeline of reading logs (provided by logs from pupils, teachers and parents) is also shown on the dashboard, as illustrated in Figure 5.



Figure 5: Timeline of total reading logs across a one-year period

From this view, it is possible to recognise trends and patterns over time, and from these, to ask questions of these data. For example, looking at the timeline in Figure 2, asking about reasons for the reading logs going down in December to March, or going up in November or May to June, could be worth exploring in discussions with parents, pupils and teachers (including teaching assistants if they are involved in reading support in classrooms). To access additional perspectives, the view can be easily changed, perhaps selecting out specific user groups, in order to show and compare logs created by pupils, parents, or teachers, for example, to compare reading across year groups (as shown in Figure 6). From the view in Figure 6, questions can also be asked, such as whether there are reasons why one year group has been involved in more reading than the other, whether there appears to be influence in



any difference according to parental involvement, or whether there are reasons why the rate of reading might be different for each year group.



Figure 6: Comparing reading logs for Year 3 and Year 4

In terms of the eleven key questions of policy concern, it is possible to see how the BoomReader platform can support at a school level, as:

- reading at young ages can be monitored. Where the levels of reading fall, it is possible for a school to identify and support those young people, so that they might gain effectively in terms of later employment, social and societal practices.
- reading at around 8 years of age can be monitored. Where the levels of reading fall, appropriate discussions can allow reasons for these falls to be identified, and for appropriate support to be put in place. Additionally, looking at the challenging words that the BoomReader platform shows can help to identify whether the young people are shifting from a focus on 'learning to read' to a focus on 'reading to learn'.
- for children 5-8-years-of-age, if levels of reading reduce over time, discussions within the schools and with parents can put in place practices to support higher levels of reading, taking account of the positive effects that can result when books are recommended to them, that match their interests, to have access to a positive role model, and be supported by teachers, family and friends talking to them about books.
- reading skills of children from disadvantaged backgrounds can be monitored. The school data allow those receiving FSMs and receiving pupil premium to be monitored, so that any

reduction in reading level or increase in challenging words can be identified and appropriate support put in place.

- children's reading of books at 10-years-of-age can be monitored. If levels fall, then support can be put in place to ensure that all children have the potential to gain higher results later in mathematics, vocabulary and spelling tests.
- the BoomReader platform allows presentations to be viewed daily or weekly. Falling reading trends can be identified quickly, so that appropriate daily treatment can be introduced to address reading weaknesses effectively.
- independence in reading can be monitored. Reading outside school times can be viewed from the presentations, allowing levels of independent reading to be identified and for support to be put in place if needed, with appropriate discussions with parents and teachers.
- the lowest attaining 20% of readers can be easily identified. As appropriate, support can then be put in place, such as early morning interventions, additional reading and half-termly checks to address reading weaknesses.
- the performance of girls can be compared to boys. Appropriate support can then be put in place, which might involve exploring matching interests in reading materials, or engaging family and friends to discuss reading more.
- a potential shift away for reading for literary purposes compared to reading for informational purposes can be identified. The book titles as well as the levels of reading can be viewed regularly, and trends can be seen if these show a change in reading source patterns. Appropriate support can then be introduced if needed.
- the possible effects of factors such as having books at home, receiving FSMs, ethnic group, EAL and gender can be viewed through the data presentations. Comparisons of those receiving FSMs, or in specific ethnic groups, or with EAL, or in different gender groups with others in the class, the year or the school, can show if there are differences. If these are identified, appropriate support can be considered and introduced to seek to address the differences.

At a school level, the BoomReader platform already provides facilities through its dashboard that can inform about key concerns at school policy level, as trends can be reviewed at regular intervals. The BoomReader platform allows details to be considered at pupil, class, year and school level, so that appropriate discussions can be had with pupils, teachers, teaching assistants, year group leaders, school leaders and parents and guardians to identify challenges that arise and to consider effective support to enhance reading for all young people (Figure 7).



Figure 7: A teaching assistant uses BoomReader to record specific word challenges that a pupil experiences when reading

7. Future Data and Presentations addressing Further Policy Concerns

In terms of the future, BoomReader offers a range of potentially important ways in which data and presentations could further support policy, particularly at local and national levels. Levels of data that are currently held within the BoomReader system are already significant:

- The number of primary schools in the system is 2,613. Of this number, there are in England 2,430 primary schools, in Northern Ireland 7, in Wales 24, and in Scotland 2. The remaining 150 are international primary schools.
- The number of UK pupils registered in the system is 423,020.
- The number of UK teachers registered in the system is 38,588.
- The number of UK parents registered in the system is 199,003.

Working on an estimate of primary school pupil numbers in the UK as 5,500,000¹⁹, the total proportionate number in the BoomReader system approximates to some 7.7%. For trend analysis purposes, this number is likely to provide reasonable estimates, but for England, where the total number of primary schools registered (2,430) compares to the total number existing (16,764²⁰), a higher proportion of 14.5% is likely to offer a stronger trend estimate. This would also be true at a year group level. Table 1 shows the numbers of pupils in each year in all UK schools (without this number being divided into national groupings).

Table 1: Numbers of pupils per year group registered in the BoomReader system

Year group	Number of pupils registered
R	4,290
1	44,119
2	56,189
3	66,274
4	69,423
5	84,334
6	98,391

The number of pupils shown in Table 1 suggests that trends identified would provide reasonable estimates. This would also be the case for trends identified that would relate to teachers and to parents. The number of teachers registered in the system (38,588) is roughly 14.6% of the total number currently working (some 264,804 according to the British Educational Suppliers Association (BESA)²¹). The number of parents registered in the system is roughly half the number of pupils, which is also likely to provide reasonable trend estimates.

¹⁹ <https://explore-education-statistics.service.gov.uk/find-statistics/education-and-training-statistics-for-the-uk>

²⁰ <https://explore-education-statistics.service.gov.uk/data-tables/fast-track/619504bd-65e7-42bf-b0bd-08dc6f35f09f>

²¹ <https://www.besa.org.uk/key-uk-education-statistics/#:~:text=How%20many%20teachers%20are%20there%20in%20the%20UK%3F,independent%20schools%20and%2027%2C883%20work%20in%20special%20schools.>



Even with these levels of data, given that data from schools could be aggregated for multi-academic trusts (MATs), local authorities, or nationally, presentations for each of these policy groupings could support local and national needs in terms of identifying positions and trends of reading at young ages:

- at around 8 years of age, when young people should shift from a focus on ‘learning to read’ to a focus on ‘reading to learn’.
- identifying whether children 5-8-years-of-age might need support, to read books recommended to them, that match their interests, to have access to a positive role model, and be supported by teachers, family and friends talking to them about books.
- from disadvantaged backgrounds, comparing those to data and presentations of children from more advantaged backgrounds.
- at 10-years-of-age, ensuring that children are reading at levels to support them subsequently in gaining the highest possible results later in mathematics, vocabulary and spelling tests.
- to indicate if individual pupil or pupil group profiles suggest intensive daily treatment to address reading weaknesses.
- to indicate from those reporting reading logs whether there is sufficient independence in reading.
- identifying from pupil or pupil group profiles for the lowest attaining 20% of readers whether early morning interventions, additional reading and half-termly checks to address reading weaknesses might be needed.
- comparing performance of girls to boys, to consider appropriate intervention measures if needed.
- to identify whether a potential shift away for reading for literary purposes compared to reading for informational purposes might need to be addressed.
- to show whether effects of factors such as having books at home, receiving FSMs, ethnic group, EAL and gender might be creating differences in trends and profiles that can be explored and addressed.

Much of the background data to support the development of presentations to allow these features to be monitored is already present within the system. From a development perspective, links to socio-economic data related to postcodes of schools, categorising books into those that are literary and those that are informational, identifying averages of numbers of books read that would be considered appropriate over periods of time, presenting challenging words in ways that would support interventions, and whether specific interventions are in place for specific year groups, classes or individual pupils, would all enable detailed monitoring and consideration of appropriate interventions to be offered.

There are some other features that could be added fairly readily that would currently support presentations of data for policy purposes. For example, given that postcodes for schools are recorded in the registration details, these postcodes could, through an appropriate algorithm, identify the nation and local authority. An API could be developed to connect with the data provided by the Office for National Statistics²², which could then provide comparative and trend data for rural or urban location, or socio-economic status, for example. Similarly, an API to connect to the Getting Information about Schools (GIAS²³) for England and related data

²² <https://explore-local-statistics.beta.ons.gov.uk/>

²³ <https://get-information-schools.service.gov.uk/responsibilities>



sets for the other nations could enable comparisons and trends related to performance and achievement.

Such development would require appropriate discussion of likely requirements and potential outcomes with policy stakeholders, and the creation of a forward plan and strategy that could work within a feasible time period. Given the time that Squirrel Learning has taken in achieving current outcomes, BoomReader could well provide additional further local and national policy level facility within a twelve-month period.

Importantly, and in summary, reading practice is known to be a continuing key issue for many young people; development of BoomReader to support school, local and national policy requirements could support opportunities to further enhance ways to identify and address this challenge.