onebillion: app-based maths learning

The onebillion programme consists of two apps that are designed to support the acquisition of basic mathematical skills for pupils aged 3-6. This project tested the impact of the apps on pupils in year 1 who had been identified by their teachers as being in the bottom half of the class in mathematics. The apps were developed by onebillion, a not-for-profit organisation. In this project, teaching assistants were trained to use the apps by a team from the University of Nottingham.

EEF Summary

The EEF funded this trial of onebillion because the intervention had an existing promising evidence base from a previous trial in twelve schools in Nottingham.

In this trial, pupils who received onebillion made an additional three months’ progress, on average, compared to the control group. This result has very high security. FSM-eligible pupils made less progress if they received onebillion. However, this analysis involves a smaller number of pupils, so we are unable to confidently claim that this negative impact is likely to occur for FSM-eligible pupils outside of this research project.

The headline finding is very promising but the trial suggested that there may have been a negative impact on FSM pupils. More research with a larger sample size is required to ascertain whether the impact on FSM-eligible pupils can be expected outside of the trial. The EEF are considering funding an effectiveness trial which will aim to investigate the impact on FSM-eligible pupils with higher security. Teachers or school leaders using onebillion should carefully monitor the impact on FSM-eligible pupils when implementing the approach.
Research Results

<table>
<thead>
<tr>
<th>Outcome/Group</th>
<th>Impact - the size of the difference between onebillion: app-based maths learning pupils and other pupils</th>
<th>Security - how confident are we in this result?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maths</td>
<td>3 Months' Progress</td>
<td>N/A</td>
</tr>
<tr>
<td>Maths (FSM)</td>
<td>2 Months' Progress</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Were the schools in the trial similar to my school?

- There were 113 schools in the trial, from the East Midlands, West Midlands, Greater Manchester and North West, and South and West Yorkshire.
- 34% of schools delivering onebillion were academies.
- 91% of the schools delivering onebillion had an Ofsted rating of good or better.
- The average number of pupils in the intervention schools was 296.
- 25% of pupils in the intervention schools were eligible for free school meals.

Could I implement this in my school?

- The onebillion apps are available to purchase online.
- In this project, TAs received a day of training, an implementation manual, and ongoing support from the University of Nottingham. This training is not currently available to schools outside of the research project.

How much will it cost?

The average cost of onebillion for one school was around £3850, or £64 per pupil per year when averaged over three years. Delivery of onebillion required a total of 59 hours of TA time. This included time to attend training, prepare for the intervention sessions and supervise the intervention sessions.

- Cost per pupil: £64
- No. of Teachers/TAs: Variable
- Training time per staff member: 1 Day

<table>
<thead>
<tr>
<th>Schools</th>
<th>Pupils</th>
<th>Key Stage</th>
</tr>
</thead>
<tbody>
<tr>
<td>113</td>
<td>1124</td>
<td>Key Stage 1</td>
</tr>
</tbody>
</table>
**Evaluation Conclusions**

1. Pupils who received *onebillion* made an additional three months’ progress in maths compared to the control group. This result has very high security.

2. Pupils eligible for free school meals (FSM) made two fewer months’ progress in maths if they received *onebillion* compared to those in the control group. These results have lower security than the overall findings because of the smaller number of pupils.

3. The process evaluation suggested that the impact of the programme might be influenced by the amount of the pedagogical support given to the pupils during the intervention sessions. Exploratory analysis suggested that pupils tended to do better when supervised by TAs who thought that their role was to teach concepts when the pupils had difficulty.

4. In this project, teachers started with Maths 3–5 and then moved to the Maths 4–6 app. TAs reported that pupils enjoyed Maths 3–5 more and required less pedagogical support to use it.

5. Further research is needed on the nature of the pedagogical support that works best in *onebillion* sessions and the effects of the programme on the mathematics attainment of pupils entitled to FSM.