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The use of an adaptive learning tool prevents and even reverses summer learning loss

Study background

- Summer learning loss (SLL) is an important issue in children's educational attainment and is defined as the drop in scores between the beginning of the new school year and the end of the previous year (Marinez-Lora & Quintana, 2015). SLL disrupts children's progress and creates a lot of extra work for teachers, who are required to revisit this material when students return to school (Cooper, 2003)

- The current study outlines how an adaptive learning tool (DoodleMaths) can help protect and even reverse summer learning loss for mathematics

- DoodleMaths is an adaptive learning system developed for use on tablets, smartphones and more recently on desktop. DoodleMaths contains algorithms which tailors the material according to the child's strengths and weaknesses

Method and findings

- One hundred and twenty-eight transitioning year 6 children from four schools across the UK took part in a study to investigate if DoodleMaths can mitigate summer learning loss.

- The children took mathematical tests at the beginning and at the end of summer, and were asked to use DoodleMaths during the summer vacation (64 children used DoodleMaths and 64 did not)

- The children who did not use DoodleMaths showed summer learning loss. They lost, on average, 2.8 marks (4.7%) in just 7 weeks

- Over half (55%) of children who did not use DoodleMaths over the summer experienced a learning loss. Whereas children who used DoodleMaths for 20 mins per week were 4 times less likely (14%) to experience learning loss

- The children who did use DoodleMaths gained an average of 0.6 marks (1%) over the summer. The children who used DoodleMaths for 20 minutes a week gained on average 2.8 marks (4.7%) over the summer.

- Therefore, DoodleMaths was positively associated with maths test performance, with every 100 minutes of DoodleMaths predicting a 3 mark (5%) increase in test score