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Evaluation of Lexia Reading Core5®, a computer-based, independent learning system.

Submission date	Recruitment status	[_] Prospectively registered
08/03/2019	No longer recruiting	[X] Protocol
Registration date	**Overall study status**	[X] Statistical analysis plan
13/03/2019	Completed	[X] Results
Last Edited	**Condition category**	[_] Individual participant data
21/11/2022	Mental and Behavioural Disorders	

Plain English summary of protocol

Background and study aims
Lexia, a computer-based independent learning system (ILS), was originally developed in the US to help pupils with dyslexia. Lexia Reading Core5® is a version of the system designed for wider use and provides personalised learning for a wide range of ability levels at primary school age. The effectiveness of the programme is being tested in this study on Key Stage 1 pupils (aged 5 – 7) who are identified by the researchers as struggling readers.

Who can participate?
Consenting pupils aged between 5 and 7 in participating schools who have been identified as struggling readers.

What does the study involve?
Pupils are randomly allocated, either to the intervention group or the control group. The programme is delivered to the pupils in the intervention group during the course on one academic year, from September 2018. Four sub-tests from the WRMT-III, which is a standardised measure of reading mastery, will be applied at the end of the programme to assess the effectiveness of the programme in boosting pupils' reading ability. An analysis of pupil engagement will also be applied. The study also includes an exploration of process by means of pre-and post teacher surveys, and school visits to conduct observations of the programme as well as interviews with teachers and focus groups with the pupils.

What are the possible benefits and risks of participating?
There are no anticipated risks associated with the intervention given that the programme has been trialed previously. If the programme is effective, the primary benefit should be a greater improvement in the intervention pupil's reading ability compared to those in the control group.

Where is the study run from?
The programme is recruiting schools in England and run from the Department of Education & York Trials Unit at the University of York.

When is the study starting and how long is it expected to run for?
January 2018 to May 2020

Who is funding the study?
Education Endowment Foundation

Who is the main contact?
Dr Louise Tracey, louise.tracey@york.ac.uk

The study protocol and Statistical analysis plan are available here:
https://educationendowmentfoundation.org.uk/projects-and-evaluation/projects/lexia

Contact information

Type(s)
Public

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Additional identifiers

Clinical Trials Information System (CTIS)
Nil known

ClinicalTrials.gov (NCT)
Nil known

Protocol serial number
N/A

Study information

Scientific Title
Lexia Reading Core5® Evaluation

Study objectives

The primary research question is:
How effective is Lexia Reading Core5® in improving struggling readers' reading skills during Year 2?

The secondary research questions are:
1. How effective is Lexia Reading Core5® in improving struggling readers' word recognition skills during Year 2?
2. How effective is Lexia Reading Core5® in improving struggling readers' decoding skills during Year 2?
3. How effective is Lexia Reading Core5® in improving struggling readers' comprehension skills during Year 2?
4. How effective is Lexia Reading Core5® in improving struggling readers' fluency skills during Year 2?
5. How effective is Lexia Reading Core5® in improving struggling readers' outcomes in KS1 national reading assessments?
6. How effective is Lexia Reading Core5® in improving struggling readers' reading skills during Year 2 for FSM pupils?

Ethics approval required
Old ethics approval format

Ethics approval(s)
Approved 13/12/2017, Department of Education Ethics Committee (c/o Research Administrator, Department of Education, University of York, Heslington, York, YO10 5DD; education-research-administrator@york.ac.uk; 01904 324476), ref: 17/26
Revisions in the light of GDPR legislation - approved 04/05/2018, ref: 17/26

Study design
A two-armed within-school individual randomised controlled trial (efficacy)

Primary study design
Interventional

Study type(s)
Other

Health condition(s) or problem(s) studied
Struggling readers.

Interventions
Key Stage 1 pupils (aged 5 - 7) who were identified as struggling readers were randomly* allocated to intervention or control within schools. Nominated teachers & teaching assistant within schools received:
1. Online training via online conference facilities
2. Ongoing support for teachers, including ongoing online web-based training
3. Programme software
4. Off-line, paper-based resources
5. On-going Technical support

In order to identify struggling readers, class teachers were asked to provide the names of the half of the Year 1 pupils with the lowest attainment. These children were independently

assessed by the administration of the Word Identification, Word Attack and Passage Comprehension subtests of the Woodcock Reading Mastery Tests – Revised Normative Update (WRMT-R/NU) by assessors recruited and trained by the University of York at the end of Year 1 (summer 2018). Consequently, eligible pupils were defined as those with pre-test WRMT-R/NU scores less than or equal to the 12th lowest ranking pupil's score for that school (up to a maximum of 14 per school).

Intervention pupils (identified at the end of Year 1) receive the Lexia Reading Core5® programme on a PC or tablet during Year 2. The intervention should be scheduled for use 4 times a week for 30 minutes (including 10 minutes set-up time) over the academic year. For compliance, pupils must have completed a minimum of 60 minutes (excluding set-up time) per week for at least 12 non-consecutive weeks. Control pupils receive 'teaching as usual'.

The primary outcome measure is a composite of the raw scores of four subtests of the WRMT-III (Word Identification, Word Attack, Passage Comprehension, and Oral Reading Fluency) for Year 2 pupils. The WRMT-III is a standardised measure suitable for ages 4 years 6 months to 79 years 11 months. The WRMT-III will be administered one-to-one with each child by a trained administrator. It is paper-based and the proposed sub-tests will take approximately 20-25 minutes in total to administer to each child. Administration of the WRMT-III at post-test will be conducted by trained administrators who are blind to group allocation to avoid the potential for ascertainment bias. The WRMT-III subtests measure word recognition (Word Identification), decoding (Word Attack), comprehension (Passage Comprehension) and fluency (Oral Reading Fluency). This is considered an appropriate measure as these subtests identify the key areas in which readers typically struggle and those that Lexia Reading Core5® targets. The composite score constructed from these subtests will reflect overall reading ability.

*Block randomisation, with a fixed block size of 2 stratified by school, was used to ensure that no more than 7 pupils were allocated to receive the Lexia intervention in any one school. Pupils were randomly allocated 1:1 to receive either the intervention or teaching as usual. An independent trial statistician at the York Trials Unit was responsible for generating the allocation schedule, using STATA (StataCorp., 2017). Pupils from each school were randomised in a single batch to ensure allocation concealment from schools prior to randomisation. Randomisation was completed before the end of the Summer Term 2018.

Intervention Type
Other

Primary outcome(s)
Composite of the raw scores of four subtests of the WRMT-III (Word Identification, Word Attack, Passage Comprehension, and Oral Reading Fluency) for Year 2 pupils, reflecting overall reading ability. The assessments will be administered when the children are at the end of Year 2 (summer 2019).

Key secondary outcome(s))
1. Raw scores of the individual subtests of the WRMT-III administered in summer 2019
2. KS1 reading raw scores after the KS1 assessments have taken place in summer 2019

Completion date
30/06/2020

Eligibility

Key inclusion criteria
Schools are eligible to participate if:
1. Had approximately 50 pupils per year group;
2. Were not involved in another EEF trial focusing on KS1 literacy or aiming to achieve change at a whole school level;
3. Were not currently using Lexia Reading Core5®, or had used Lexia Reading Core5® in the past 12 months
4. Met the technological requirements to support an IT-based intervention (the intervention can be run on iPads); and
5. Were willing to implement the intervention with respect to the random allocation (i.e. only with those pupils assigned to the intervention group).

Within participating schools, KS1 pupils, aged between 5 and 7 are eligible to participate if:
1. They have been identified as struggling readers through independent administration of the Word Identification, Word Attack and Passage Comprehension subtests of the WRMT-R/NU (summer 2018); and
2. A withdrawal of data form is not received from the parent.

Participant type(s)
Healthy volunteer

Healthy volunteers allowed
No

Age group
Child

Sex
All

Key exclusion criteria
1. Year 2 pupils not identified as a struggling reader through the independent administration of the three subtests of the WRMT-R/NU at the end of Year 1 (as above)

Date of first enrolment
02/01/2018

Date of final enrolment
31/05/2018

Locations

Countries of recruitment
United Kingdom

England

Study participating centre

Department of Education & York Trials Unit
University of York
York
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YO10 5DD

Sponsor information

Organisation
Education Endowment Foundation

ROR
https://ror.org/03bhd6288

Funder(s)

Funder type
Charity

Funder Name
Education Endowment Foundation

Alternative Name(s)
EducEndowFoundn, The Education Endowment Foundation (EEF), Education Endowment Foundation | London, EEF

Funding Body Type
Private sector organisation

Funding Body Subtype
Trusts, charities, foundations (both public and private)

Location
United Kingdom

Results and Publications

Individual participant data (IPD) sharing plan
The datasets generated during and/or analysed during the current study are available from the corresponding author on reasonable request

IPD sharing plan summary

Available on request

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Funder report results		01/02/2022	21/11/2022	No	No
Protocol (other)	v1.0	06/06/2018	21/11/2022	No	No
Protocol (other)	v1.1	01/02/2019	21/11/2022	No	No
Statistical Analysis Plan		16/11/2018	21/11/2022	No	No
Study website	Study website	11/11/2025	11/11/2025	No	Yes