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Headsprout early reading evaluation in special schools

Submission date	**Recruitment status**	[_] Prospectively registered
22/07/2021	No longer recruiting	[X] Protocol
Registration date	**Overall study status**	[_] Statistical analysis plan
06/08/2021	Completed	[_] Results
Last Edited	**Condition category**	[_] Individual participant data
11/10/2023	Other	[_] Record updated in last year

Plain English summary of protocol

Background and study aims
Many children with special education needs and disability (SEND) struggle to learn to read, and the considerable attainment gap in reading for children with SEND increases across the key stages. Developing and robustly evaluating potentially beneficial interventions is a hugely important step in helping to address some of these challenges and build resources and capacity within schools to help improve reading outcomes.
Headsprout® Early Reading (HER®) is a computer-based programme that focuses on building fluency in essential early reading skills (such as decoding and blending) through providing explicit phonics instruction and giving children lots of opportunities to practice until skills become fluent.
Bangor University has been leading pilot work exploring how the programme can be used in mainstream and special schools for a number of years. Through this work, they have developed additional training and implementation support models, and have conducted and published pilot work investigating the use of the programme in various settings. Two previous pilot studies of HER® in a small number of special schools reported positive impacts on reading skills, but these studies are small and a larger trial is required. This study will evaluate the effects of a computer-based early reading programme on reading skills for children with SEND in special schools and will test whether HER® leads to improved reading outcomes.

Who can participate?
All special schools in a geographical spread around the Midlands, Central and North England will be invited to participate if they have at least five, and up to 15 pupils at Key Stage (KS)1 and/or KS2 (aged between 5 and 11 years) who have been identified by school teaching staff as lacking early reading skills, and meet the following criteria:
1. Do not have a reading ability beyond the level of HER®
2. Can sit at a computer for up to 10 minutes
3. Can understand and follow one or two-step instructions
4. Can imitate spoken sounds/words
5. Can respond to feedback (praise or correction)
6. Can use some self-initiated speech (in English) (single words to short sentences)
Schools will be provided with a short paragraph of text taken from the programme to determine whether pupils have a sufficiently low level of decoding skills.

What does the study involve?

Whether schools will receive HER® (the intervention) or be in the control group (and not receive HER®) will be decided at random (like tossing a coin). Half of the schools will receive HER®, and the other half will be in the control group. This is so that the researchers can compare the reading abilities of pupils in the study who received HER® to those who did not. It is the best way to show whether there are any differences between the two groups.

The control group schools will continue to teach as normal. From the end of September 2021 to mid-May 2022, pupils in the HER® (intervention) group work through activities in an online programme that adapts instruction in response to their answers. HER® involves three computer-delivered lessons weekly, with stories and benchmark assessments at various stages. Activities are designed to be engaging and resemble computer games. There are 80 computer-delivered lessons and, depending on individual children and their needs, sessions typically take between 10 and 30 minutes. Stories are available throughout the programme and can be read within the online episodes as well as outside of the HER® sessions (these are available as printable books). Benchmark assessments take place after every 10 episodes and take the form of a story. School staff listen to each child read the story individually and rate the reading. These ratings and other monitoring activities are used to decide if the child needs to work on the additional 1:1 fluency activities.

The evaluation team at the University of Warwick will complete reading tests with pupils on two occasions (between April and July in 2021, and again in May-July 2022) in all schools, regardless of whether they received HER® or not. This is to see if there are any differences between pupils who do HER® and those who don't. These tests will be completed by trained testers and should take around 45 minutes per pupil, including settling in time and breaks. The evaluation team will arrange the best times to complete the testing with each school.

The evaluation team will also ask some teachers and pupils from HER® schools to have an interview with a researcher to tell us more about their experiences of taking part in the research, and HER®. The interviews with pupils will be undertaken using Talking Mats® (a picture-based question response system) to ensure that children with different levels of communication abilities are able to share their experiences with the evaluation team. Further information about the interviews will be provided to teachers and pupils at the time to help them to make the decision about taking part.

What are the possible benefits and risks of participating?

Schools randomly chosen to receive HER® will be provided with pupil licences for all children who are taking part in the study. Schools randomly chosen to be in the control group (and not to receive HER®) will instead receive two payments totalling £1000, £250 on completion of pre-test assessments, and £750 on completion of post-test assessments. Schools in both groups (HER® and control) will be contributing to the evidence base about teaching children with SEND to read using an online programme, and this may help more children with SEND in the future.

Whilst there are no anticipated risks to taking part, those schools in the HER® (intervention) group will have a small time burden associated with the delivery of the programme: three members of staff (including the staff who will be delivering the intervention, and at least one teacher) will be asked to attend a training session for 1 day in September 2021 to learn how to support pupils to do the programme. They will then go on to support the to do HER®, with a manual and implementation support provided by the delivery team throughout the study. This will take the form of monthly school visits (where possible), with phone supervision and email support provided in between these visits. Schools chosen to receive HER® will also make a contribution to the training and implementation support costs of £200.

Where is the study run from?
1. Bangor University (UK)
2. University of Warwick (UK)

When is the study starting and how long is it expected to run for?
September 2019 to July 2022

Who is funding the study?
The Educational Endowment Foundation (EEF) (UK)

Who is the main contact?
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Additional identifiers

Protocol serial number
EEF/ SEND2019

Study information

Scientific Title
Headsprout Early Reading® (HER®) in Special Schools (HERiSS) – a randomised control trial

Acronym
HERiSS

Study objectives
HERiSS involves evaluating the effectiveness of an intervention using HER® delivered by staff in special schools. The intervention is aimed at pupils aged between 5 and 11 years in Key Stage (KS)1 and KS2 who have been identified by school teaching staff as lacking early reading skills.

Ethics approval required
Old ethics approval format

Ethics approval(s)
Approved 11/12/2019, Humanities & Social Sciences Research Ethics Committee (HSSREC) at the University of Warwick (Coventry, CV4 7AL, UK; +44 (0)24 765 73123; HSSREC@warwick.ac.uk), ref: HSSREC 37/19-20

Primary study design
Interventional

Study design
Two-arm cluster randomized controlled trial

Study type(s)
Other

Health condition(s) or problem(s) studied
Lack of early reading skills in pupils in KS 1& 2 in Special Schools

Interventions
HERiSS involves evaluating the effectiveness of an intervention using HER® delivered by staff in special schools. Schools are randomised to either receive HER® (the intervention) or be in the control group (and not receive HER® and will continue to teach as normal). The method of randomisation is through a process of minimisation (adaptive stratified sampling).

The intervention is aimed at pupils aged between 5 and 11 years in KS1 & KS2 who have been identified by school teaching staff as lacking early reading skills.
The intervention involves three change processes (see attached logic model):
1. Upskilling teaching staff to teach children with SEND to read
2. The adaptation of the HER® programme by providing additional support such that it can be effectively delivered to children with SEND

3. Teaching children with SEND early reading skills
There are four key components to the intervention. These include the causal mechanisms (delivery, process and theory) needed to effect change:

1. Training staff (teachers and TAs) to oversee the delivery of HER® to children in their school. Training will be delivered as 1-day online workshops. All schools in the intervention group will be offered a choice of dates for the training to be completed in September 2021. At least three members of staff per school are expected to attend, including at least one teacher and one TA. Schools will not be able to begin to use HER® until three members of staff have completed the training.

2. The delivery of HER® with between 5 and 15 pupils per school. Based on a combination of small group episode delivery and 1:1 work as required, implementation of HER® with the maximum 15 pupils would require between 10 and 20 hours per week. It is therefore necessary for it to be timetabled accordingly and for two staff members to be allocated to HER® delivery for this study, to enable reliable implementation each week.
HER® involves sequential, comprehensive instruction that is tailored to the needs and learning pace of every pupil. Pupils work through activities in an online programme that adapts instruction in response to their answers. Activities are designed to be engaging and resemble computer games. There are 80 computer-delivered lessons and, depending on individual children and their needs, sessions typically take between 10 and 30 minutes. Stories are available throughout the programme and can be read within the online episodes as well as outside of the Headsprout® sessions (these are available as printable books). Benchmark assessments take place after every 10 episodes and take the form of a story. School staff listen to each child read the story individually and rate the reading. These ratings and other monitoring activities are used to decide if the child needs to work on the additional 1:1 fluency activities.
Reading instruction includes explicit systematic instruction on the three early reading skills involved in decoding that are part of five critical areas of learning to read:
1. Phonemic awareness
2. Phonics
3. Vocabulary
4. Fluency
5. Text comprehension
Following benchmark assessments and based on previous research findings some pupils may require additional 1:1 fluency activities. These fluency activities include specific aims (e.g., 30 words of passage ready correctly in a minute) which increase as the programme progresses to ensure true mastery of the reading skills being taught.
The extent to which this is different to usual practice will vary across schools. Many special schools use reading programmes that include some form of phonics instruction, although very few have had training specific to reading instruction with children with SEND. However, they are unlikely to be using programmes in which the core instruction is delivered via the computer, employing explicit fluency-based instruction in phonics and decoding strategies. They are also unlikely to be using a programme that has been piloted specifically with children with SEND, and which includes support strategies relevant to their pupils.

3. The provision, to all schools in the intervention group, of an implementation support manual specifically designed for using HER® with children with SEND; this will provide additional support for high-quality implementation and includes suggestions for additional 1:1 fluency exercises.

4. Ongoing implementation support provided by the Implementation Support Officers (ISOs) via a combination of in-person (when possible) and online/telephone support. Support provided by

ISOs will include supervision and feedback for school staff, effective use of additional strategies in response to implementation challenges, and the close monitoring of online data providing timely feedback to schools in respect of this.
The support model involves schools receiving fortnightly supervision, including one school visit (when possible) every 4 weeks.
Those schools allocated to the HER® arm will implement HER® across one school year, post-randomisation and attendance by at least three members of staff at the training (see above).

Intervention Type
Behavioural

Primary outcome(s)
Pupils' reading skills measured by DIBELS® Composite Score at baseline, 1 year and at post-intervention 2 years

Key secondary outcome(s)
1. Components of reading fluency (e.g., letter naming fluency, phonemic segmentation fluency, nonsense word fluency, word reading fluency, and oral reading fluency) measured by DIBELS® component analysis at baseline, 1 year and at post-intervention 2 years
2. Pupils' reading self-concept (including reading for pleasure/spontaneous reading) measured by Reading self-concept scale at baseline, 1 year and at post-intervention 2 years

Completion date
31/07/2022

Eligibility

Key inclusion criteria
Participating special schools will have at least five, and up to 15 pupils at KS1 and/or KS2 who meet clearly described pupil eligibility criteria:

Pupils who do not have a reading ability beyond the level of HER® and can:
1. Sit at a computer for up to 10 minutes
2. Understand and follow one or two-step instructions
3. Imitate spoken sounds/words
4. Respond to feedback (praise or correction)
5. Use some self-initiated speech (in English) (single words to short sentences)

Participant type(s)
Other

Healthy volunteers allowed
No

Age group
Child

Sex
All

Total final enrolment
403

Key exclusion criteria
Special schools with fewer than 5 pupils who meet the eligibility criteria

Date of first enrolment
16/03/2021

Date of final enrolment
31/05/2021

Locations

Countries of recruitment
United Kingdom

England

Wales

Study participating centre
Bangor University
School of Psychology
Bangor
United Kingdom
LL57 2PZ

Study participating centre
The University of Warwick
Coventry
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CV4 7AL

Sponsor information

Organisation
Bangor University

ROR
https://ror.org/006jb1a24

Organisation
University of Warwick

ROR
https://ror.org/01a77tt86

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
At the end of the trial, the University of Warwick will share the data with EEF's data archive processor through secure data portals, where the data will be encrypted and saved to secure servers for further analysis. At that point EEF will become the data controller and the University of Warwick will no longer have any responsibility for the data.
The data will be shared with the Department for Education (DfE), the EEF, EEF's archive manager, the Office for National Statistics (ONS) and potentially other research teams, subject to the appropriate approvals. Data will be matched with the National Pupil Database (NPD) for analysis after the trial. Further matching to the NPD other administrative data may take place during subsequent research to better understand the impact of the project.
Education Endowment Foundation will act as the data controller for the archive, which is managed on their behalf by FFT and held in the ONS Secure Research Service. The archive does not contain any information that can be used to directly identify an individual pupil. For example, the archive does not include names, addresses or dates of birth. The archive does contain the Pupil Matching Reference (PMR) which is an identifier used by the DfE to enable the linking of archive data to the NPD.

IPD sharing plan summary

Stored in repository

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Protocol (other)		16/11/2021	14/07/2022	No	No