

Protocol for evaluation of 'Accelerated Reader'

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Introduction

The project to be evaluated is a controlled trial of an intervention called Accelerated Reader, a web based programme to encourage reading for pleasure. The intervention matches pupils to possible books that will stretch and test them, and is already widely used in the UK. However, it has not been rigorously evaluated in the UK and the results from the US are mixed. The precise way in which schools will implement the intervention can be allowed to vary – in intensity, frequency and duration for example. This is standard for a pragmatic trial of teaching resources used by professionals. The evaluation may give some clue as to which version is preferable but the overall trial is of the intervention as a template.

This evaluation will be conducted as a co-operative venture between independent evaluators and schools themselves. The project therefore has three inter-locking objectives. It is to some extent a traditional evaluation of a promising intervention, seeking evidence of whether Accelerated Reader works to enhance reading ability over and above standard treatments. It will enhance the understanding of the principles and practice of evaluation for schools and enhance understanding for the evaluators of the problems that schools face in generating evidence. Therefore, it is a capacity-building project. And finally, it will also provide evidence on whether schools are capable of undertaking small independent trials that can be aggregated to provide solid evidence for any intervention.

The school clusters

The overall pattern is that there will be no formal pre-test. Pre-intervention scores will be the KS2 (SATs) scores, using teacher assessment where scores are below level 3. Pupils working at below secure Level 4 KS2 English will be identified in June/July 2013 while in Year 6. They will be individually randomised either to receive FS intervention from September to December 2013 while in Year 7, or the following term. Training of staff, where necessary, will take place in June/July 2013. The post-test of the New Group Reading Test will be taken by all pupils in December/January 2013.

Essex (St John's) will involve around 100 pupils in Year 6 June 2013, the intervention will be 30 minutes per week, and they will post-test again in July 2014.

Thornaby will involve around 70 pupils in Year 6 June 2013.

East Sussex will involve around 120 year 7 pupils, and the intervention will be 20 minutes twice per week.

Liverpool (Broadgreen) will have around 225 Year 7 identified as not secure Level 4 KS2 English, the intervention will be 4-5 classes per week, and the school is already running AR in some prior years.

Capacity-building

Although the independent evaluators will shadow, check and extend the work of the schools, it is the schools themselves that will conduct much of the basic work of evaluation here. This will include randomisation to treatment, testing, collation of data, and calculation of results.

This will require some development for school staff on research design, principles of rigorous evaluation, and threats to validity and how to minimise them. In order to help this, the evaluators will prepare a brief easy to follow set of ideas for use by schools for each stage of the evaluation (such as randomisation). These can be amended as needed and used to form a library of such resources for future projects. In addition, there will be a series of three half days of training for all school staff involved in these trials. The first of these was in March 2013, and covered principles of design, and why randomisation is needed.

Impact evaluation

The project involves 4 small clusters of schools, each of which will be conducting a trial independently of each other, and then the results will be pooled by the evaluators.

Design

The proposed design is for an individually randomised controlled trial. Pupils working at below Level 4 (or expected secure Level 4) will be identified by schools. They will be randomised to the treatment now or to a delayed treatment commencing at the end of the trial. This maximises the study power for its cost. Both groups will be post-tested at the end of the trial, and any waiting list groups will then receive the intervention as well.

Sample size

There are, in effect, four separate trials being proposed here. One is in Essex involving 100 year 6 pupils, one in Thornaby involving 70 year 6 pupils, one in East Sussex with 120 year 7 pupils, and one in Liverpool with 225 year 7 pupils. Total in the region of 515. Combined, these figures form a reasonable basis for an aggregated trial (see Gorard 2013, and Khan and Gorard 2012). Each school will identify pupils not attaining or expected to attain Level 4 at KS2. These will be pre-tested and then randomised to immediate or waiting list intervention groups.

Tests

The post-test measure will be the New Group Reading Test. The evaluators will have oversight of delivery of the tests, and for blinding as appropriate. Ideally, the test will be conducted on-line as far as possible to assist standard timing and marking. All clusters will complete the post-test in December 2013 to January 2014.

Analysis

The primary outcome measure will be the difference in the gain score between the two arms of the trial, expressed as an effect size, where the gain is the average difference between individual pre-test measures (in terms of KS fine points scores in English) and post-test NGRT scores. We will add further useful or possible outcomes in negotiation with the schools and EEF. Analysis will be by cluster. Then the results will be meta-analysed for the aggregated trial, and considered also only for those pupils eligible for FSM.

Process evaluation

This fieldwork forming the light-touch process evaluation has the aim of providing some formative evidence on all aspects of the intervention from the selection and retention of schools, through the training of teachers to evaluating the outcomes. This can be used to help assess fidelity to treatment, and the perceptions of participants including any

resentment or resistance, and to advise on improvements and issues for any future scaling up.

This will all necessitate the generation of some additional data from observation and interviews with staff, focus groups of pupils, plus observation of training, delivery and testing. These will all be as simple and integrated as possible. For example, immersion in one setting in one day could yield data on all of these issues from all of these stakeholders. We propose two person visits to each site. In addition, we will prepare and conduct an on-line survey of the intervention process and the schools' role in the evaluation for completion by relevant staff.

Timeline

Spring 2013- Schools identify candidate pupils below secure Level 4

Collect pupil background data

Oversee randomisation of classes to groups

Observe training of staff

September 2013- Observation of ongoing process evaluation

Survey of relevant staff in all schools

January 2014- Observe post-testing in schools

Update background data

Oversee analysis of outcome data by schools

Synthesise with process evaluation data

Aggregate results from 4 clusters

March 2014- Complete full EEF report.