



Using evidence to inform teaching and learning

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Getting evidence to schools: true or false



Drinking 6 to 8 glasses of water per day improves pupil learning outcomes

Reducing class size is one of the most effective ways to improve pupil learning

Extending the school day is more likely to improve learning outcomes for pupils on free school meals than for other pupils

Interventions that focus solely on raising pupil aspirations have little impact on learning outcomes

Setting pupils by ability improves learning outcomes for all pupils

Individual pupils learn best when they receive information in their preferred learning style (e.g. auditory, visual, kinaesthetic).

Peer-tutoring (students supporting other students with their learning) usually benefits the pupil being tutored more than the pupil tutoring

Homework has a greater impact on pupils' learning outcomes at secondary school than at primary school.

The Education Endowment Foundation
is an independent education charity
based in London



Our mission is to break the link between family income and educational achievement



We were set up in 2011 with an endowment from government to find out 'what works' in improving attainment



Department for
Education



£125m
Endowment from
Government



Created by
Sutton Trust and
Impetus PEF



EEF
established in
2011

We have a small expert team of education specialists, academics, analysts and grant managers



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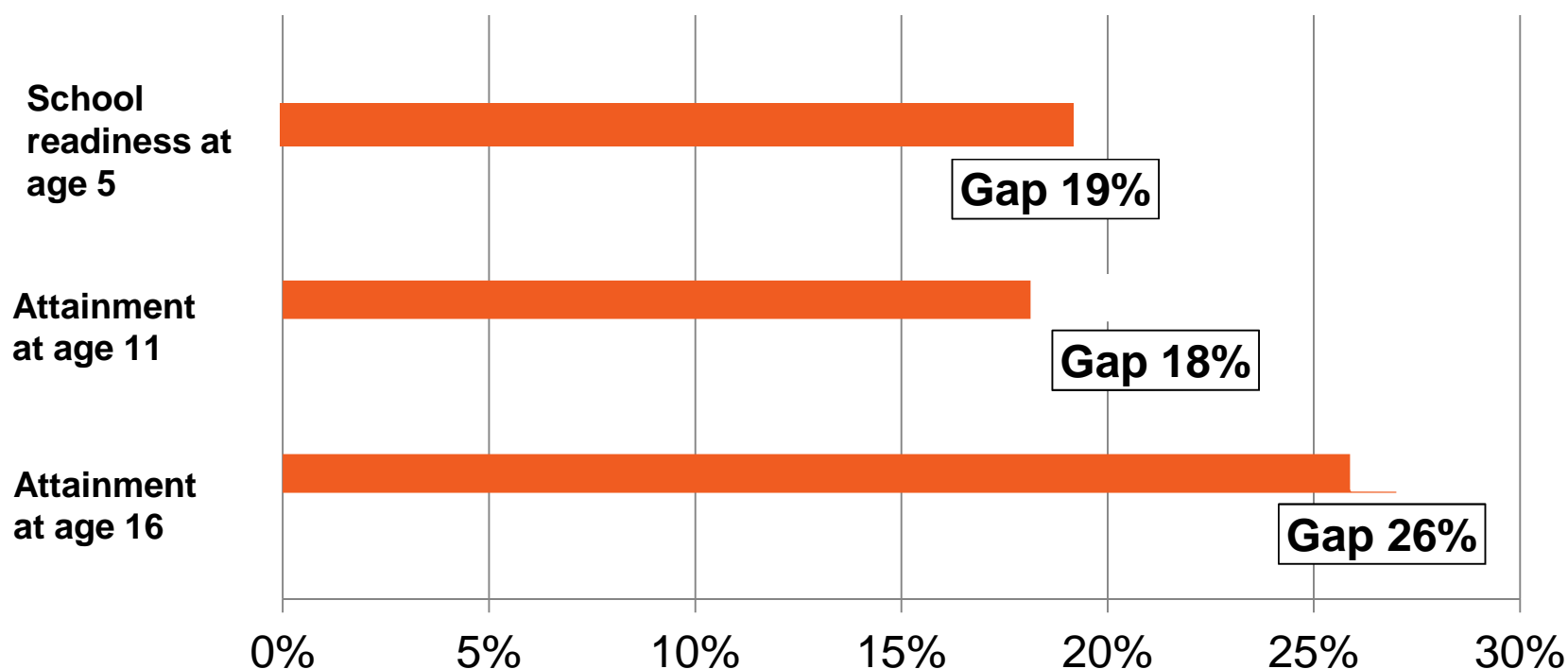
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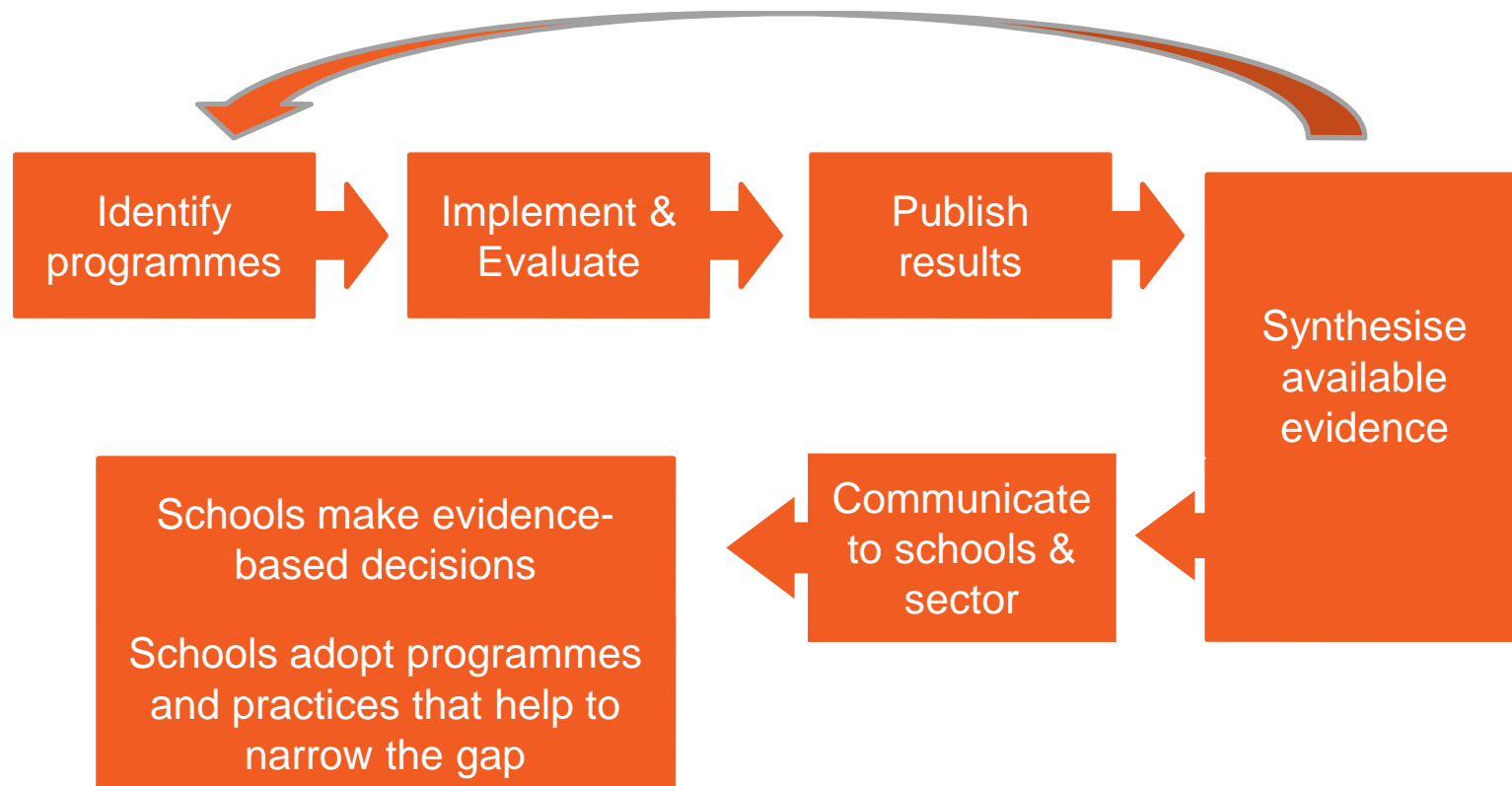
There is a strong link between family income and educational attainment



Percentage point gap in proportion of pupils achieving the expected level, FSM-eligible vs Not FSM-eligible (FSM = Free School Meals)



The EEF is committed to finding ways to break the link so that all children can fulfil their potential



We fund and evaluate programmes that aim to improve attainment, especially for disadvantaged pupils



We fund ideas that:

- Focus on narrowing the gap
- Build on existing evidence
- Can be scaled up cost effectively if shown to work

We are looking to generate significant new understanding of **‘what works’** in education



Some of the questions we're trying to answer this year are:



-
- Does teaching children to play chess boost their attainment in Maths?
 - Can peer observation by teachers improve teaching practice?
 - Do pupils respond to financial rewards?
 - Does training parents to read with their children improve attainment?
 - What are the best ways of grouping students, and what impact does this have on attainment?
 - What impact, if any, does giving children breakfast in schools have?
 - Does delaying school start times for adolescents improve attainment?

Nuffield Early Language Intervention



Nuffield Early Language Intervention



Projects by numbers

6,200
schools
currently
participating in
projects

£65m
funding
awarded
to date

64% of
school
leaders say
they have
used the EEF
Toolkit

115
projects
funded
to date

715,000
pupils
currently
involved in
EEF projects

42
evaluation
reports
published

There are three different routes we use to encourage the adoption of evidence-based programmes and practices



1. Identify specific programmes that have been shown to be effective and **incentivise schools to use them**

Example 1: Scaling up successful trials

2. Identify types of practice that have been shown to be effective and **incentivise schools to use them**

Example 2: EEF Guidance

3. Enable schools to identify and select effective programmes and practices for themselves

Example 3: EEF Toolkit

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Example 3: EEF Toolkit

Example 1: 'Raising the Bar' in Suffolk



Suffolk County Council's Raising the Bar 2015-17 programme and the Education Endowment Foundation have created a new joint fund worth £600,000 to boost attainment across the county.

1. Identify specific programmes that have been shown to be effective and incentivise schools to use them

Example: Scaling up successful trials

2. Identify types of practice that have been shown to be effective and incentivise schools to use them

Example: EEF Guidance

3. Enable schools to identify and select effective programmes and practices for themselves

Example: EEF Toolkit

Example 2: The EEF Teaching Assistants Guidance



1. Identify specific programmes that have been shown to be effective and incentivise schools to use them

Example: Scaling up successful trials

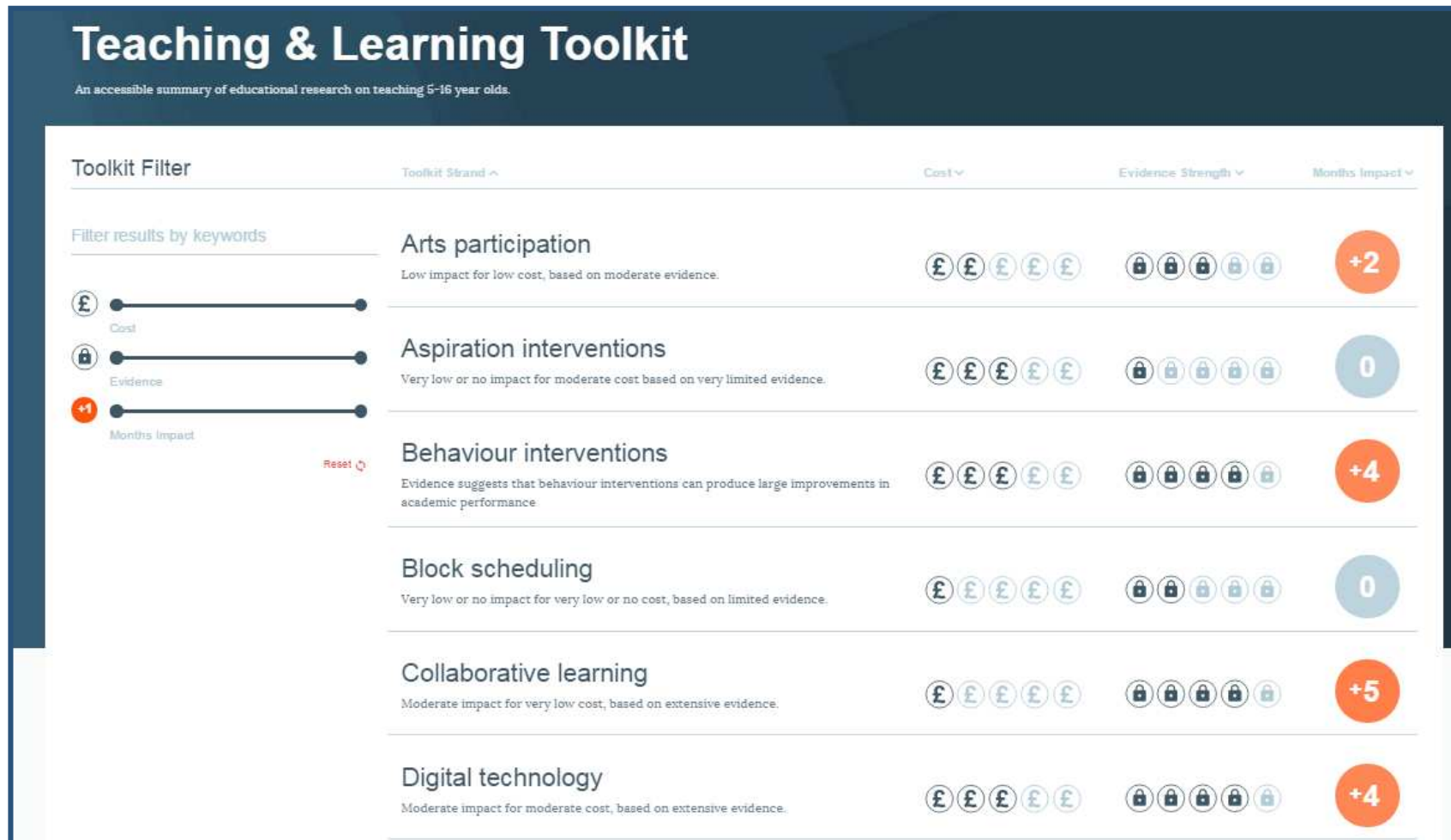
2. Identify types of practice that have been shown to be effective and incentivise schools to use them

Example: EEF Guidance

3. Enable schools to identify and select effective programmes and practices for themselves

Example: EEF Toolkit

Example 3: EEF/Sutton Trust Teaching and Learning Toolkit



The success of the different routes depends in part on the capacity of each school



1. Identify specific programmes that have been shown to be effective and incentivise schools to use them

School must be able to implement a programme with fidelity

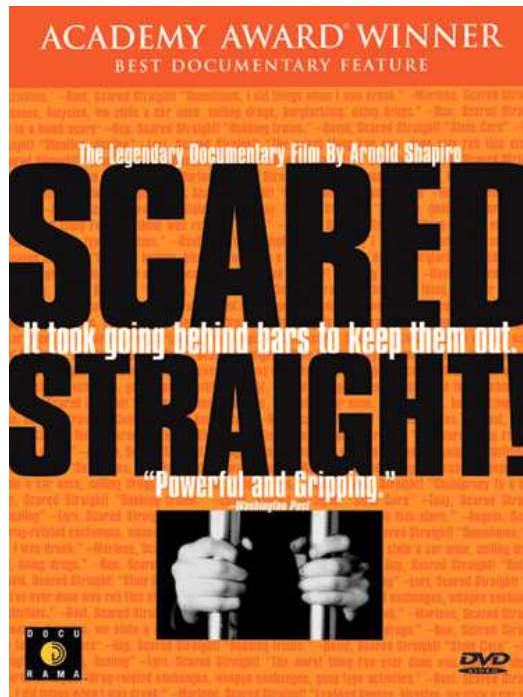
2. Identify types of practice that have been shown to be effective and incentivise schools to use them

School must be able to adapt practices to their context

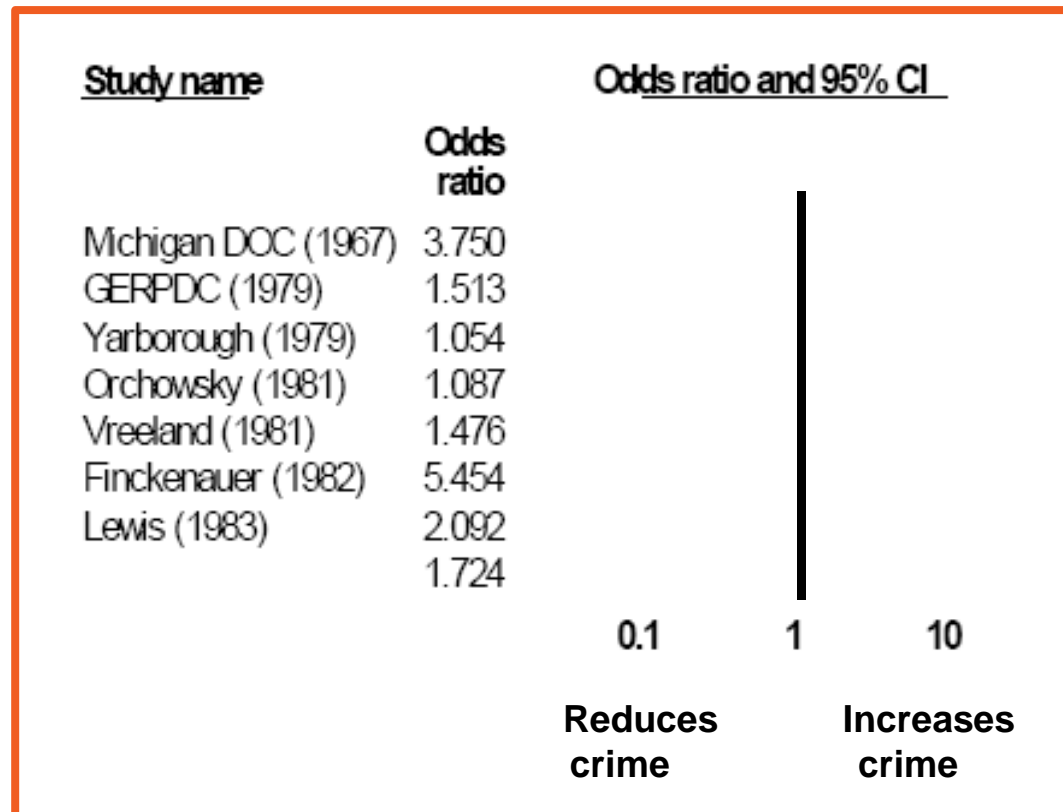
3. Enable schools to identify and select effective programmes and practices for themselves

School must be able to identify good evidence and know how to apply it

Why evidence matters



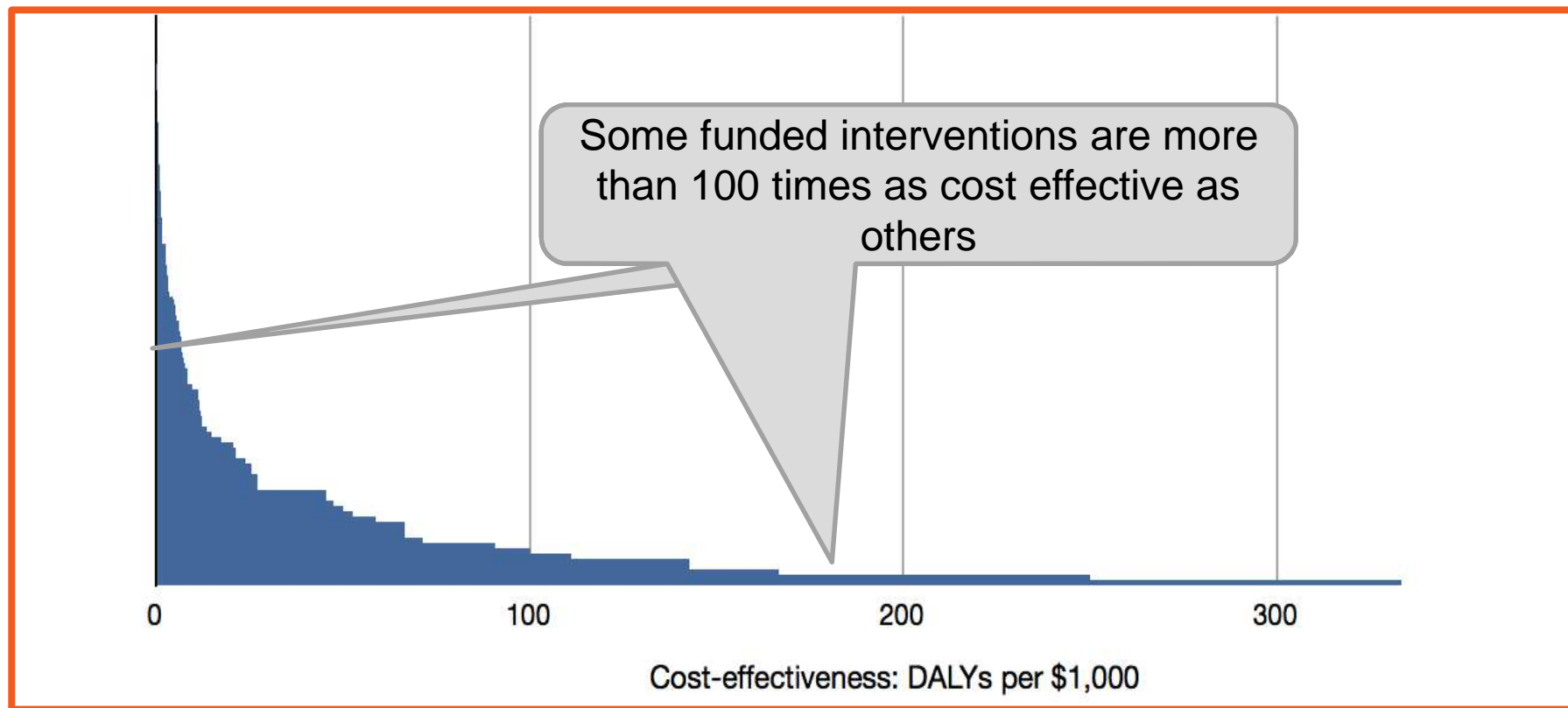
Scared Straight 1978 documentary directed by Arnold Shapiro



Scared Straight and Other Juvenile Awareness Programs for Preventing Juvenile Delinquency: A Systematic Review
Anthony Petrosino, Carolyn Turpin-Petrosino, Meghan E. Hollis-Peel, Julia G. Lavenberg

Why evidence matters

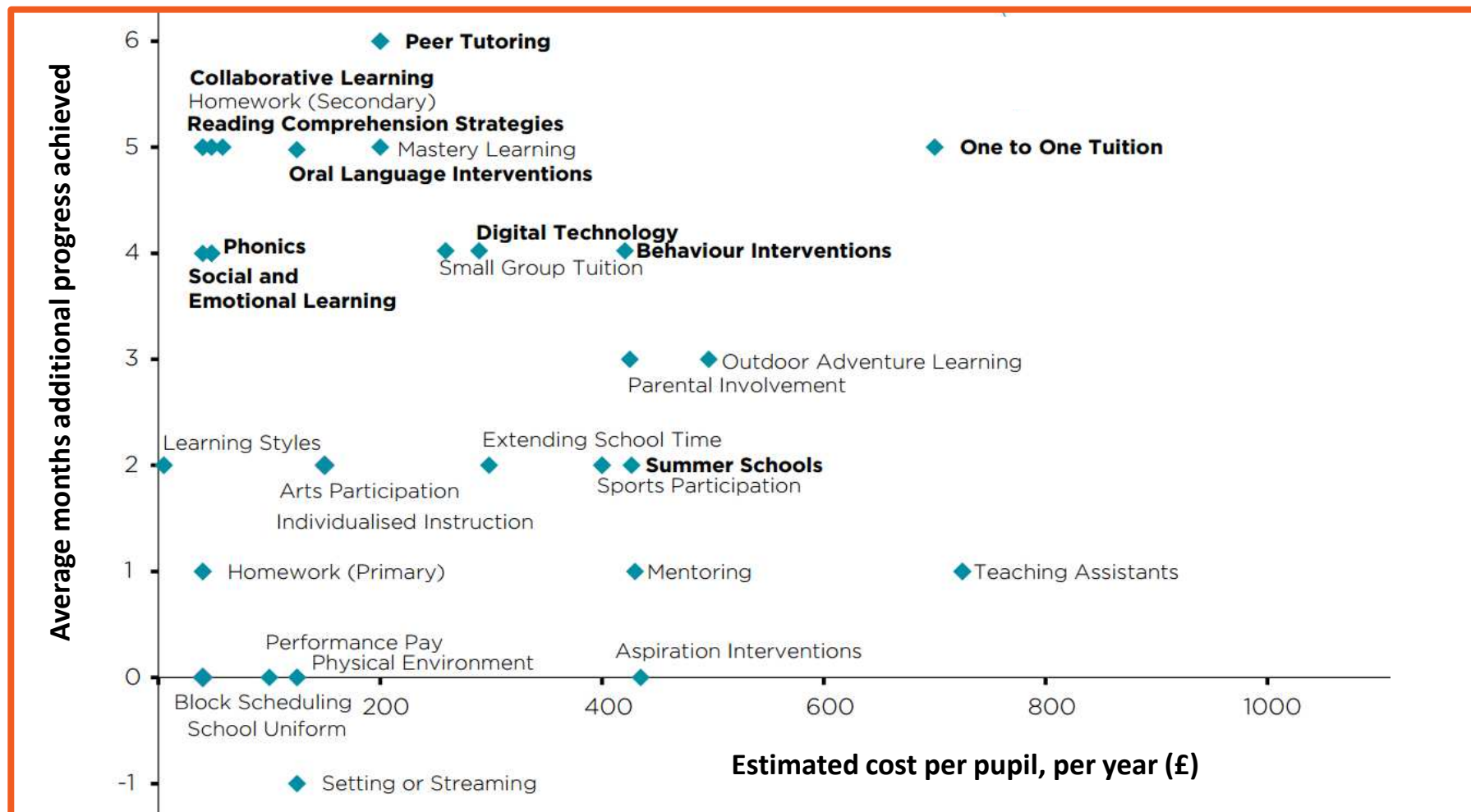
Cost Effectiveness Estimates for 108 different Global Health Interventions



Toby Ord, 2013, The Moral Imperative toward Cost Effectiveness in Global Health

Cost effectiveness in education

Cost effectiveness estimates for a range of education practices (source: EEF Toolkit)



Questions



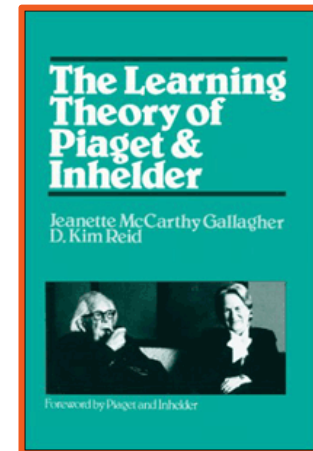
-
- Is it wrong to talk about cost-effectiveness in education?
 - Why do you prioritise RCTs?
 - What about professional judgement?
 - Are you 'experimenting on children'?

A huge range of evidence sources are used in education research

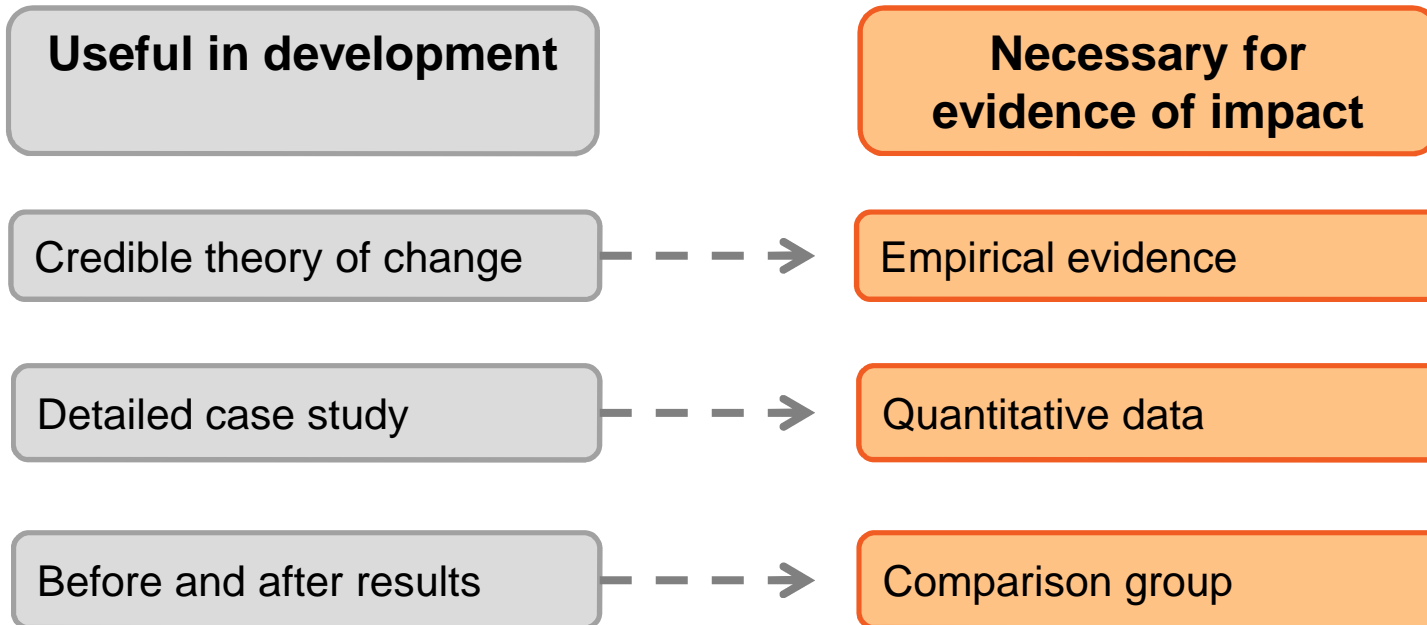


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- Case studies
- Expert opinion
- Pupil attainment
- Theoretical analysis
- Pupil and teacher views



But to understand ‘what works’ we need to focus on **evidence of impact**. Some sources cannot provide this.



Example: Mind the Gap project

Mind the Gap



'Mind the Gap' aims to give parents the skills they need to support their child's learning effectively. The programme has been developed over a number of years and is currently being delivered to over 1,500 pupils, mostly 8-9 year-olds (Year 4, primary) within the UK.

Barriers to using evidence



Schools tell us there are three major barriers that stop them from making the best use of evidence:

- They don't know what to trust
- They don't know where to access high quality evidence
- Traditional evidence sources don't help them to put the evidence into practice

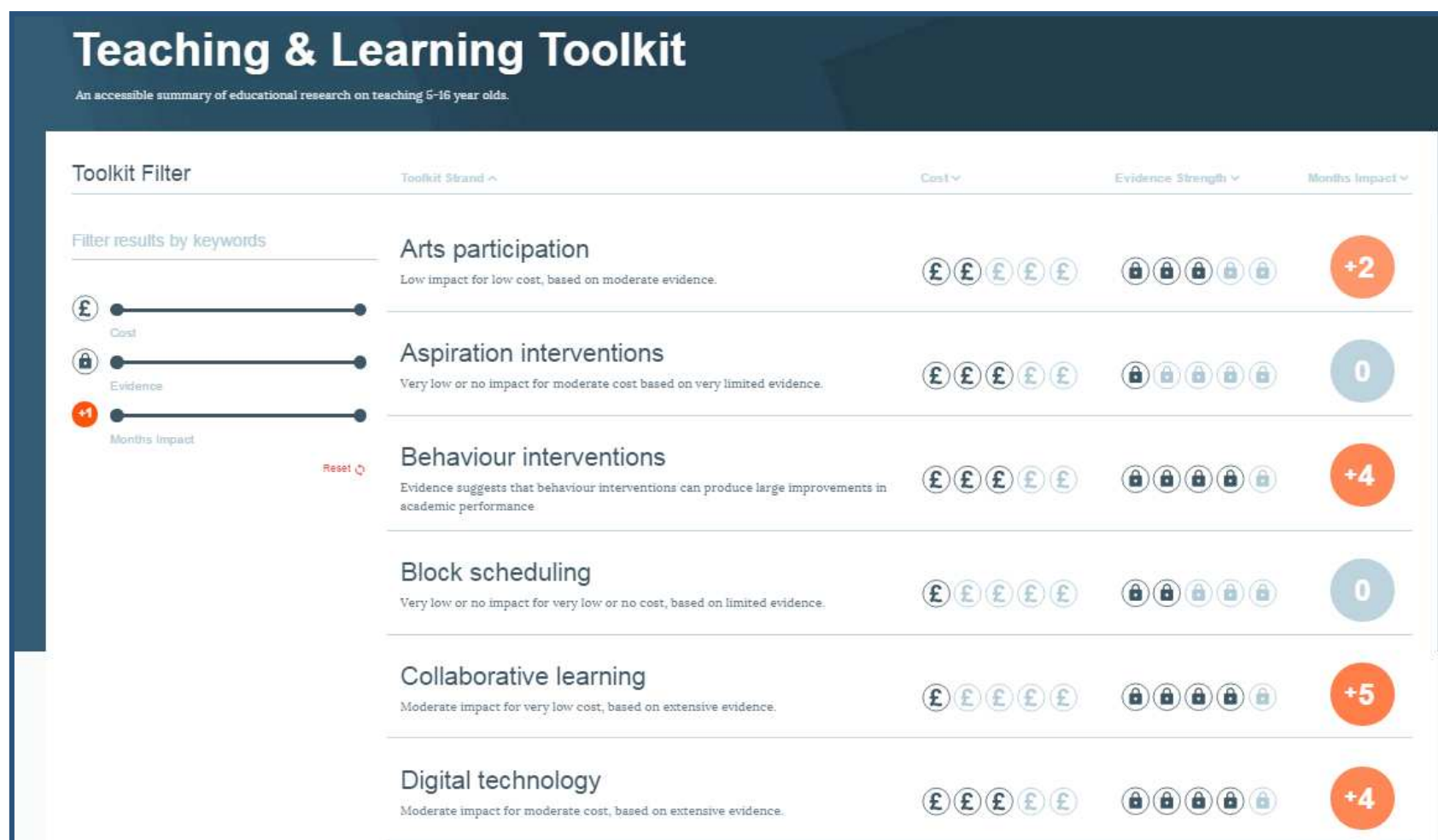
Evidence to suit schools



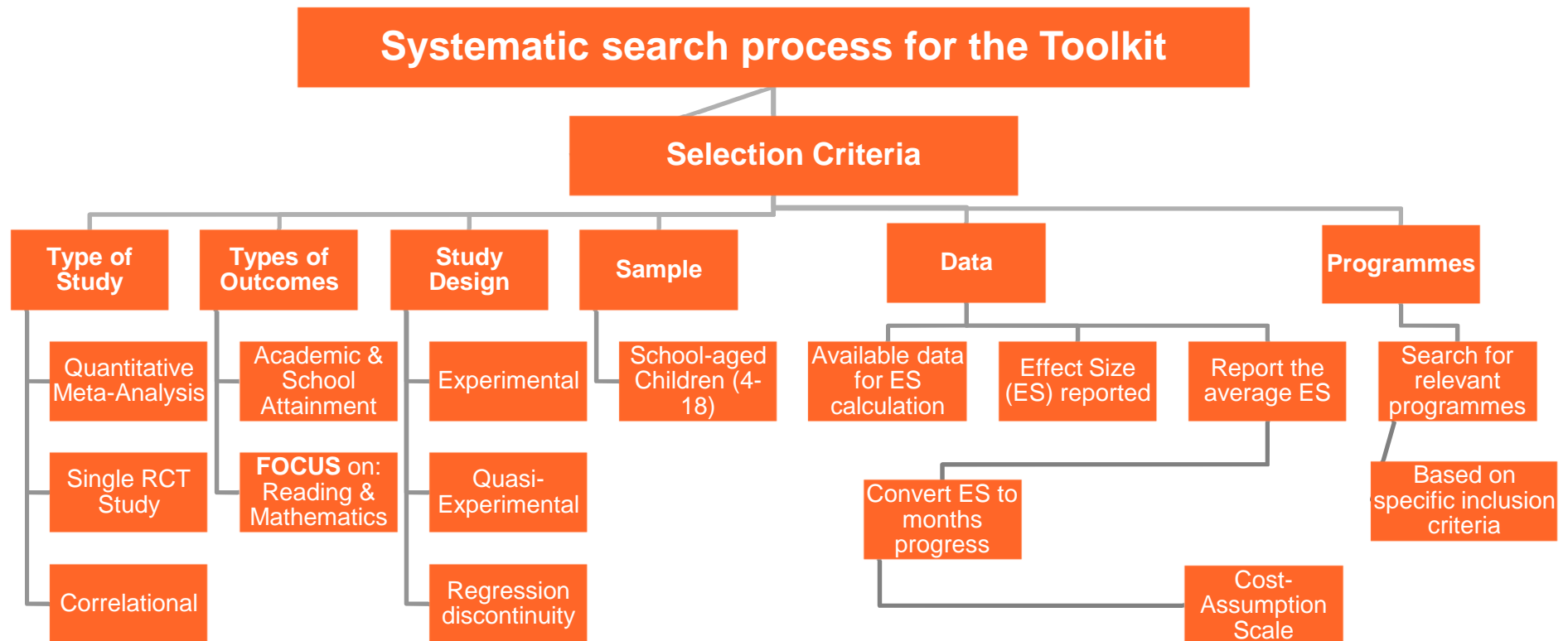
We wanted to provide:

- An accessible, user-friendly summary of educational research
- Based on research conducted by independent academics
- A practice-focused resource which allows comparison between approaches and includes information on implementation

The EEF/Sutton Trust Teaching and Learning Toolkit



A meta-analytical approach...



..... which is still meaningful to decision makers

Teaching assistants

Low impact for high cost, based on limited evidence.

£ £ £ £ £

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+1

Contents

- 01. What is it?
- 02. How effective is it?
- 03. How secure is the evidence?
- 04. What are the costs?
- 05. What should I consider?

< Toolkit A-Z

Teaching assistants

Teaching assistants (also known as TAs or classroom support assistants) are adults who support teachers in the classroom. Teaching assistants' duties can vary widely from school to school, ranging from providing administrative and classroom support to providing targeted academic support to individual pupils or small groups.

How effective is it?

Evidence suggests that TAs can have a positive impact on academic achievement. However, effects tend to vary widely between those studies where TAs provide general administrative or classroom support, which on average do not show a positive benefit, and those where TAs support individual pupils or small groups, which on average show moderate positive benefits. The headline figure of one additional month's progress lies between these figures.




What are the costs?

The average cost of employing a teaching assistant, including salary and on-costs, is estimated at about £18,000. Overall, costs are estimated as high.


What should I consider?

Before you implement this strategy in your learning environment, consider the following:

Resources

-  Printable Summary
18th February, 2016 - Toolkit/EEF_teaching-assistants.pdf
1 MB pdf
-  Toolkit References
18th February, 2016 - /EEF_Teaching_Assistants_Toolkit_Referen
466 KB pdf
-  Toolkit Talks Teaching Assistants
Video - 1:12 min

Further Reading

-  Institute of Education
A report on the role and impact of teaching assistants in the UK was commissioned by the Department for Education and Skills and undertaken by a team from the Institute of Education at London University.

In some cases teachers and TAs work together effectively, leading to increases in attainment

4

Using the Toolkit to make evidence-based decisions



Understanding your context

- What are your priorities for better learning?
- Where should you focus your efforts?
- What change do you want to make?

Seeking independent, high quality information

- Who tells you what to do?
- Where do you get your ideas from?
- Who do you trust?

Promoting professional conversations

- How will it work in practice?
- Can you deliver this in your setting?
- Should you stop doing that?

Digital technology

Digital technology

Moderate impact for moderate cost, based on extensive evidence.

£ £ £ £ £

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Contents

- 01. What is it?
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← Toolkit A-Z


Digital technology

The use of digital technologies to support learning. Approaches in this area are very varied, but a simple split can be made between: 1. Programmes for students, where learners use technology in problem solving or more open-ended learning, and 2. Technology for teachers such as interactive whiteboards or learning platforms.

How effective is it?


Overall, studies consistently find that digital technology is associated with moderate learning gains (on average an additional four months). However, there is considerable variation in impact. Evidence suggests that technology should be used to supplement other teaching, rather than replace more traditional approaches. It is unlikely that particular technologies bring about changes in learning directly, but different technology has the potential to enable changes in teaching and learning interactions, such as by providing more effective feedback for example, or enabling more helpful representations to be used or simply by motivating students to practise more.

Resources




Printable Summary
18th February, 2016 -
Toolkit/EEF_digital-technology.pdf

1 MB pdf



Digital Technologies Literature R...
12th February, 2016 -
Publications/EEF_Lit_Review_TheImpact

1 MB pdf



Toolkit References
18th February, 2016 -
Toolkit/References/EEF_Digital_technolog

227 KB

Related Projects

We have funded 9 Digital projects.




What we do

EEF's resources at a glance

Meta-cognition and self-regulation

Meta-cognition and self-regulation

High impact for very low cost, based on extensive evidence.



Contents

- 01. What is it?
- 02. How effective is it?
- 03. How secure is the evidence?
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Meta-cognition and self-regulation

Meta-cognition and self-regulation approaches (sometimes known as 'learning to learn' approaches) aim to help learners think about their own learning more explicitly. This is usually by teaching pupils specific strategies to set goals, and monitor and evaluate their own academic development. Self-regulation means managing one's own motivation towards learning. The intention is often to give pupils a repertoire of strategies to choose from during learning activities.


How effective is it?

Meta-cognition and self-regulation approaches have consistently high levels of impact, with pupils making an average of eight months' additional progress. The evidence indicates that teaching these strategies can be particularly effective for low achieving and older pupils.


These strategies are usually more effective when taught in collaborative groups so learners can support each other and make their thinking explicit through discussion.

The potential impact of these approaches is very high, but can be difficult to achieve as they require pupils to take greater

Resources



Printable Summary
29th March, 2016 - Toolkit/EEF_meta-cognition-and-self-regulation.pdf
1 MB pdf




EEF_Technical Appendix_Meta ...
29th March, 2016 - Projects/EEF_Technical_Appendix_Meta_...
137 KB

Related Projects

We have funded 6 Meta-cognition and self-regulation projects.

Further Reading



View 6 linked resources
Linked resources for this strand

What we do
EEF's resources at a glance

Meta-cognition and self-regulation approaches have consistently high levels of impact

Parental involvement

Parental involvement

Moderate impact for moderate cost, based on moderate evidence.

£

£

£

£

£

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+3

01. What is it?

02. How effective is it?

03. How secure is the evidence?

04. What are the costs?

05. What should I consider?


Parental involvement


Parental Involvement covers the active engagement of parents in supporting their children's learning at school. This includes programmes focused on parents and their skills (such as improving literacy or IT skills), general approaches to encourage parents to support their children to read or do mathematics, and more intensive programmes for families in crisis.

How effective is it?

Although parental involvement is consistently associated with pupils' success at school, the evidence about how to increase involvement to improve attainment is mixed and much less conclusive. This is particularly the case for disadvantaged families. There is some evidence that supporting parents with their first child will have benefits for siblings. However, there are also examples where combining parental engagement strategies with other interventions, such as extended early years provision, has not been associated with any additional educational benefit. This suggests that developing effective parental involvement to improve their children's attainment is challenging and will need careful monitoring and evaluation.

Resources

Printable Summary
18th February, 2016 -
Toolkit/EEF_parental-involvement.pdf
1 MB pdf

Toolkit References
18th February, 2016 -
Toolkit/References/EEF_Parental_involvement.pdf
271 KB pdf

Related Projects

We have funded 2 Parental involvement projects.

Further Reading

What we do

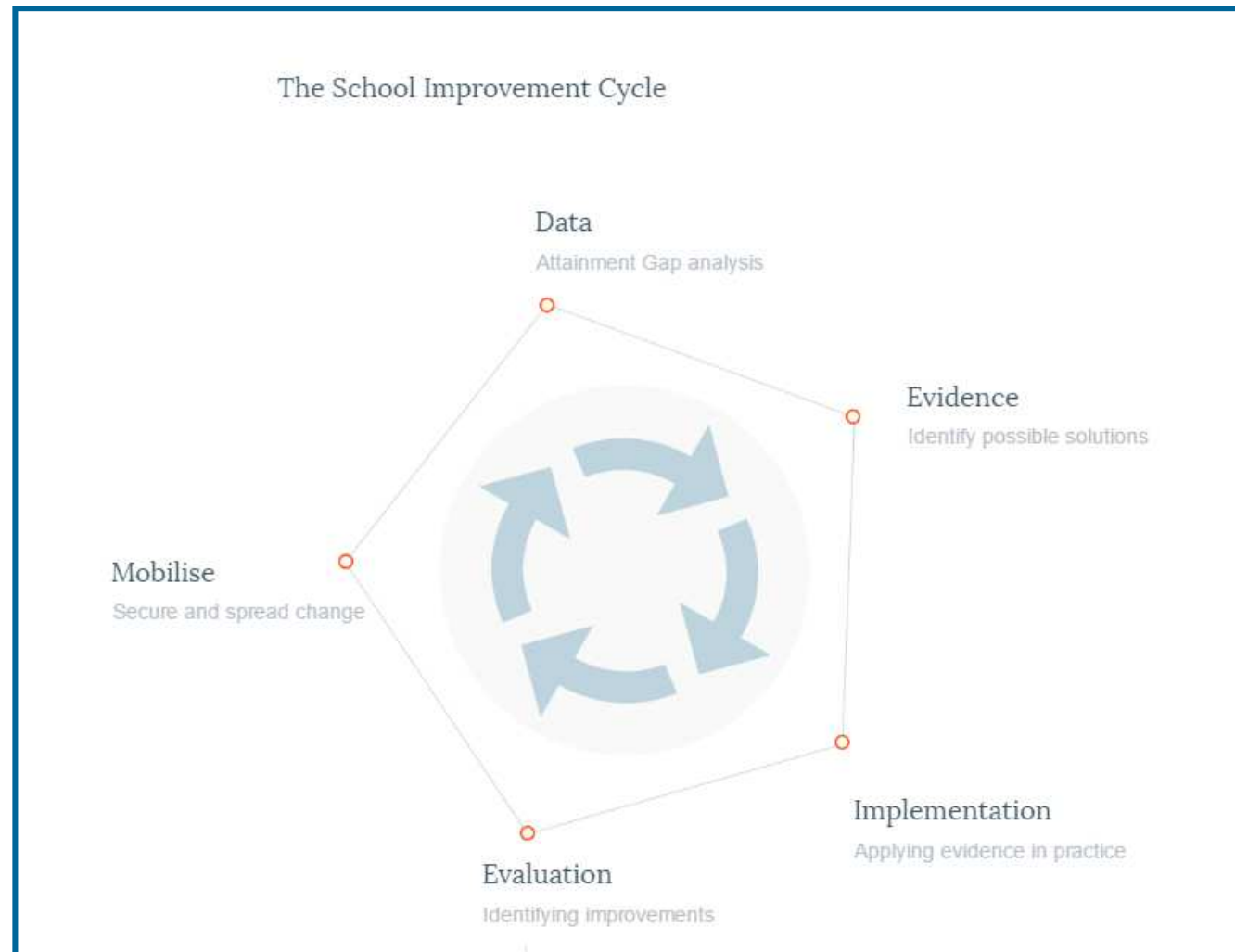
EEF's resources at a glance



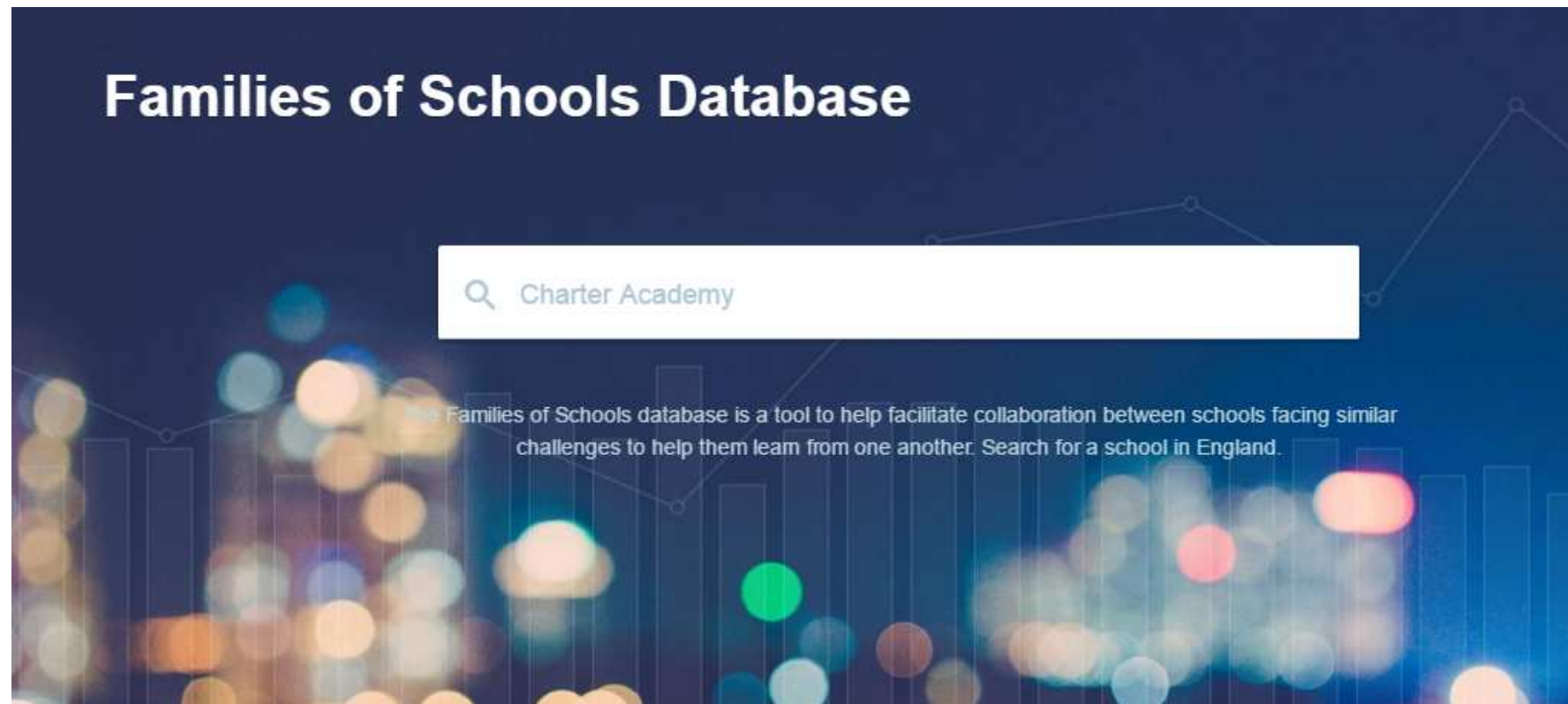
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School improvement cycle



Families of Schools Database



Guidance reports

- Bridging the gap between the Toolkit and practice
- Providing actionable, evidence-based recommendations
- A blueprint for future independent evidence-based guidance?



Making best use of teaching assistants

RECOMMENDATIONS ON THE USE OF TEACHING ASSISTANTS IN EVERYDAY CLASSROOM CONTEXTS

I

TAs should not be used as an informal teaching resource for low-attaining pupils

The evidence on TA deployment suggests schools have drifted into a situation in which TAs are often used as an informal instructional resource for pupils in most need. Although this has happened with the best of intentions, this evidence suggests that the status quo is no longer an option. School leaders should systematically review the roles of both teachers and TAs and take a wider view of how TAs can support learning and improve attainment throughout the school.

II

Use TAs to add value to what teachers do, not replace them

If TAs have a direct instructional role it is important they supplement, rather than replace, the teacher – the expectation should be that the needs of *all* pupils are addressed, first and foremost, through high quality classroom teaching.

Schools should try and organise staff so that the pupils who struggle most have as much time with the teacher as others. Breaking away from a model of deployment where TAs are assigned to specific pupils for long periods requires more strategic approaches to classroom organisation.

Where TAs are working individually with low-attaining pupils the focus should be on retaining access to high-quality teaching, for example by delivering brief, but intensive, structured interventions.

III

Use TAs to help pupils develop independent learning skills and manage their own learning

New research has shown that improving the nature and quality of TAs' talk to pupils can support the development of independent learning skills, which are associated with improved learning outcomes. TAs should, for example, be trained to avoid prioritising task completion and instead concentrate on helping pupils develop ownership of tasks.

IV

Ensure TAs are fully prepared for their role in the classroom

Schools should provide sufficient time for TA training and for teachers and TAs to meet out of class to enable the necessary lesson preparation and feedback.

Creative ways of ensuring teachers and TAs have time to meet include adjusting TAs' working hours (start early, finish early), using assembly time and having TAs join teachers for (part of) Planning, Preparation and Assessment (PPA) time.

During lesson preparation time ensure TAs have the essential 'need to know':

- Concepts, facts, information being taught
- Skills to be learned, applied, practised or extended
- Intended learning outcomes
- Expected/required feedback.

RECOMMENDATIONS ON THE USE OF TEACHING ASSISTANTS IN DELIVERING STRUCTURED INTERVENTIONS OUT OF CLASS

V

Use TAs to deliver high-quality one-to-one and small group support using structured interventions

Research on TAs delivering targeted interventions in one-to-one or small group settings shows a consistent impact on attainment of approximately three to four additional months' progress (effect size 0.2–0.3). Crucially, these positive effects are *only* observed when TAs work in structured settings with high-quality support and training. When TAs are deployed in more informal, unsupported instructional roles, they can impact negatively on pupils' learning outcomes.

VI

Adopt evidence-based interventions to support TAs in their small group and one-to-one instruction

Schools should use structured interventions with reliable evidence of effectiveness. There are presently only a handful of programmes in the UK for which there is a secure evidence base, so if schools are using programmes that are 'unproven', they should try and replicate some common elements of effective interventions:

- Sessions are often brief (20–50 mins), occur regularly (3–5 times per week) and are maintained over a sustained period (8–20 weeks). Careful timetabling is in place to enable this consistent delivery
- TAs receive extensive training from experienced trainers and/or teachers (5–30 hours per intervention)
- The intervention has structured supporting resources and lesson plans, with clear objectives
- TAs closely follow the plan and structure of the intervention
- Assessments are used to identify appropriate pupils, guide areas for focus and track pupil progress. Effective interventions ensure the right support is being provided to the right child
- Connections are made between the out-of-class learning in the intervention and classroom teaching (see Recommendation vii).

RECOMMENDATIONS ON LINKING LEARNING FROM WORK LED BY TEACHERS AND TAs

VII

Ensure explicit connections are made between learning from everyday classroom teaching and structured interventions

Interventions are often quite separate from classroom activities. Lack of time for teachers and TAs to liaise allows relatively little connection between what pupils experience in, and away from, the classroom. The key is to ensure that learning in interventions is consistent with, and extends, work inside the classroom and that pupils understand the links between them. It should not be assumed that pupils can consistently identify and make sense of these links on their own.

'Raising the Bar' in Suffolk



PROGRAMME OVERVIEW

| PROGRAMME | SUMMARY | TYPE OF PROGRAMME | ELIGIBLE YEAR GROUPS | ADDITIONAL MONTHS PROGRESS | PADLOCKS | SUBJECT AREA |
|---|---|-------------------|----------------------|----------------------------|-----------|--------------|
| Accelerated Reader Renaissance Learning | A web-based programme that measures and accelerates reading growth, motivates children to read more, and identifies skills gaps. | Whole class | Years 5-8 | + 3 months | 🔒 🔒 🔒 🔒 🔒 | 📖 |
| Catch Up* Literacy Catch Up* | One-to-one reading intervention that addresses word recognition processes and language comprehension processes. | Targeted | Years 3-7 | + 2 months | 🔒 🔒 🔒 🔒 🔒 | 📖 |
| Catch Up* Numeracy Catch Up* | One-to-one intervention that breaks numeracy down into 10 components, tests children's ability on each, and targets the exact area of need. | Targeted | Years 3-7 | + 3 months | 🔒 🔒 🔒 🔒 🔒 | 🧮 |
| Fresh Start Ruth Miskin Training | A phonics-based literacy programme for older children who are not yet reading at the age-appropriate level. | Targeted | Years 5-8 | + 3 months | 🔒 🔒 🔒 🔒 🔒 | 📖 |
| IPEELL – The Writing Project OEP | Improving writing using a structured approach and memorable experiences. | Whole class | Years 4 – 7 | + 9 months | 🔒 🔒 🔒 🔒 🔒 | 📖 |
| Mathematical Reasoning Oxford University and NCETM | Developing logical principles underlying mathematics, through teacher training, teaching materials and computer games. | Whole class | Year 2 | + 3 months | 🔒 🔒 🔒 🔒 🔒 | 🧮 |
| Philosophy for Children SAPERE | Weekly teacher-facilitated, pupil-led, dialogues enquiring into jointly developed philosophical questions. | Whole class | Years 2-6 | + 2 months | 🔒 🔒 🔒 🔒 | |
| Switch-on Nottinghamshire County Council | 10 week reading and writing intervention, delivered by trained TAs, targeting underachieving, vulnerable pupils. | Targeted | Years 3-7 | + 3 months | 🔒 🔒 🔒 🔒 | |
| Thinking, Doing and Talking Science Science Oxford & Oxford Brookes | Training teachers to make science lessons more practical, creative and challenging. | Whole class | Years 3-6 | + 3 months | 🔒 🔒 🔒 🔒 | |

Raising the Bar 2015-2017

Ensuring every child in Suffolk
can achieve their full potential





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