



The Communication Trust
Every child understood

What Works?

for children with speech, language and communication needs

A guide to the evidence on speech,
language and communication interventions
for children and young people



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What Works: A guide to evidence > About this guide

About This Guide

This guide is intended for anyone interested in evidence-based interventions that support speech, language and communication skills in children and young people.

It aims to share some of the principles involved when considering development of the evidence base.

It does not aim to replicate the detailed knowledge needed in research methodology or speech, language and communication that would be gained from more formal or intensive academic study.

The information that follows is focussed around the set of criteria that are used to evaluate interventions submitted to the *What Works* database; explanations and examples of the criteria are included to give further information on why each is an important part of an intervention's evidence base.

This guide will be helpful to those thinking about submitting an intervention to *What Works*, by clarifying what the various criteria mean and what is needed for the criteria to be met. It also explains the process that the Moderating Group goes through when making decisions about interventions submitted.

The information included here may also be of use to those who may not be planning on submitting an intervention but are interested in the elements and principles of developing a robust evidence base.

The guide has two parts:

In Part 1 you'll find detailed explanations of each of the criteria, giving the rationale for the criteria, definitions of key terms, and examples from *What Works*.

In Part 2 information on other resources and guidance is provided.

You will also find a glossary at the back of the guide explaining some of the key terms used.

What Works: A guide to evidence > About this guide

Some background on *What Works*

What Works is a moderated virtual library of evidenced interventions that aims to support children's speech, language and communication. *What Works* was developed from work done by the Better Communication Research Programme, which in 2012 produced a report entitled '*What Works*': *Interventions for children and young people with speech, language and communication needs*.^{1,2,3}

Based on this work, the Communication Trust then worked in collaboration with colleagues at The Better Communication Research Programme, The Royal College of Speech and Language Therapists and members of the Communication Consortium to develop an online, searchable database intended to be easy for all practitioners with an interest in speech, language and communication to use.

What Works helps early years practitioners, teachers, school leaders, and speech and language therapists (SLTs) find evidenced interventions for children and young people by providing a free and easily accessible overview of the evidence base for each intervention. *What Works* offers information on universal, targeted and specialist interventions.⁴

Users can search for interventions by target group, age range, focus of the intervention, who it's delivered by and in what type of format. The evidence for each intervention is rated as 'strong', 'moderate' or 'indicative' as determined by an academic Moderating Group, using a set of clear criteria to judge the strength of evidence.

A quick note

It is important to note at this point that *What Works* is focused solely on interventions. It does not include the wider picture in providing appropriate services and support for children's communication development, such as professional development for staff, engagement with parents, working with leadership and communities, whole service delivery models, etc. It is important that any evidenced intervention sits within a wider strategy in order for it to be effective and sustainable.

1. <https://www.gov.uk/government/publications/what-works-interventions-for-children-and-young-people-with-speech-language-and-communication-needs>
2. Law, J., Roulstone, S. Lindsay, G (2015). Integrating external evidence of intervention effectiveness with both practice and the parent perspective: the development of an interactive evidence database. *Developmental Medicine and Child Neurology*. DOI: 10.1111/dmcn.12630
3. Roulstone, S., Wren, Y. (2012). Interventions for children with speech, language and communication needs: An exploration of current practice. *Child Language Teaching and Therapy* 28, 325-341.
4. Please see <http://www.thecommunicationtrust.org.uk/projects/what-works/searchterms/> for a definition of these terms, (also known as Waves 1,2, and 3)
5. Law, J. Roy, P. (2008). Parental report of infant language skills - a review of the development and application of the Communicative Development Inventories Child and Adolescent Mental Health. (commissioned article) 13, 198-206.

What Works: A guide to evidence > About this guide

All about the evidence

The *What Works* Moderating Group evaluates interventions submitted to *What Works* based on a set of criteria that are used to judge the strength of an intervention's evidence base. The Group uses the criteria to scrutinise the evidence provided, looking particularly at how robust the design of the research supporting the intervention is.

A robust research design helps to ensure that any effects observed are actually the result of the intervention, not by chance or something else happening as part of the children's education or wider life experiences. It is important to keep in mind that there will always be a number of factors at work that can impact on the progress a child makes, besides the intervention being delivered. By evaluating the research design we can determine how likely it is that the intervention and not other variables have made an impact on children's outcomes.

For a study to be able to provide robust evidence that an intervention is effective, it is important to consider the experimental control. Without controls, assessors may see improvements in the area they are measuring that are not actually due to the intervention, but rather to other factors like normal development, a great class teacher, another intervention, bias on the part of assessors, etc. Only by controlling for other factors that can influence outcomes is it possible to see clear links between the intervention used and the outcomes measured. We all believe in the interventions we use or we wouldn't be using them; it is robust research design with experimental controls that allows us to evidence that it is our interventions and not other variables are having an impact on children's outcomes. The level of experimental control is taken into account by the Moderating Group when making decisions about the strength of evidence provided for interventions.

When the Moderating Group reviews an intervention's evidence, the amount of detail regarding the design and delivery of the research is very important, in order to give a clear picture of the exact conditions in which it took place. This information not only helps with evaluation of the robustness of the research design but also allows the intervention to be replicated and implemented by others, important for building evidence on the impact that we can have on children's communication.

Evidence versus outcomes

It is also important to note the distinction between strength of evidence and strength of outcomes. There are interventions included on *What Works* that have not demonstrated positive outcomes for children, but are included because they have a strong research design. This is in order to provide users with as complete a picture as possible regarding the evidence for specific interventions. It is important that users are just as aware of evidence suggesting an intervention is ineffective as they are of evidence that supports an intervention.

It is essential that the outcome measurements used in the research on an intervention are valid and reliable.⁵ In order to accurately demonstrate an intervention's effectiveness, appropriate and consistent approaches to assessments must be used. In any intervention that is submitted, the measurements used to assess effectiveness of the intervention should be clearly reported in the research, in order to allow those considering the intervention to have a clear understanding of its effectiveness. *What Works* aims to provide users with this important information about each intervention's outcomes, though it does not undertake any evaluation of an intervention's outcomes or comparisons between the outcomes of different interventions.

What Works: A guide to evidence > Part 1 - Explanation of the What Works criteria

Part 1 - Explanation of the *What Works* criteria

The criteria that follow are those used by the *What Works* Moderating Group to evaluate all submissions to *What Works*. Included here are the rationale and explanation for each criteria, along with examples of what they may look like in practice.

The criteria are divided into seven sections. These are:

- 1 - Validity and theoretical underpinning
- 2 - Access and delivery
- 3 - Evaluation
- 4 - Research design
- 5 - Publication
- 6 - Outcomes
- 7 - Population

Within the seven sections, some criteria are essential and others are desirable. All essential criteria are underlined and desirable criteria are in italics. An intervention must meet all the 'essential' criteria in order to be included on *What Works*.

What Works: A guide to evidence > Part 1 - Explanation of the What Works criteria > Section 1 - Validity and theoretical underpinning

Section 1 – Validity and theoretical underpinning

Criteria 1 - Information about the approach or intervention explains the rationale and the evidence base for the approach (Essential)

Why this is important	All research should be based on an initial hypothesis, which is underpinned by what we already know about best practice for supporting children’s speech, language and communication generally and this particular approach or intervention more specifically.
What is needed	This criteria is about identifying and sharing the evidence and knowledge that already exists around the approach that your intervention is supporting. For example, the Pre-Teaching Vocabulary intervention listed in <i>What Works</i> is based on evidence that children with vocabulary learning needs benefit from a structured approach to teaching semantic and phonological word knowledge

Criteria 2 - Some of the evidence to support the approach is recent research evidence within the public domain (Essential)

Why this is important	Our knowledge around <i>What Works</i> for children’s communication is moving forward all the time; it is important therefore that at least a proportion of the underpinning evidence is based on recent research evidence
What is needed	Some of the research evidence for the approach should have been published within the last 10 years; for example, the Core Vocabulary intervention is based on theories of phonological disorder published in the 1980s alongside more recent references published in the 2000s

What Works: A guide to evidence > Part 1 - Explanation of the What Works criteria > Section 1 - Validity and theoretical underpinning

Criteria 3 - The intervention makes theoretical and practical sense and the steps in the intervention are transparent, accessible and easy to follow (Essential)

Why this is important	The interventions and approaches included in the <i>What Works</i> database need to make sense in terms of what we already know theoretically and practically and they need to be accessible and useable for practitioners.
What is needed	<p>By ensuring that the steps in the intervention are transparent, accessible and easy to follow, the moderating group are able to see that the intervention looks like it would work in practice, which is important to take into consideration alongside the robust research design elements.</p> <p>We know for example that narrative structure is important for children to be able to tell stories. The Becky Shanks narrative intervention has good face validity as it applies what we know about story grammar theory and turns it into a simple structure for telling narratives. It is able to provide clear and easy to follow explanations of what needs to happen and why.</p>

What Works: A guide to evidence > Part 1 - Explanation of the What Works criteria > Section 2 - Access and delivery

Section 2 – Access and delivery

Criteria 4 - The intervention is manualised or presented in such a way that it is possible to adopt it without adaptation (Essential)

<p>Why this is important</p>	<p>Evidenced interventions are only useful in practice if they can be utilised; <i>What Works</i> is designed to be a practical resource to support practitioners to adopt evidenced interventions to support speech, language and communication, so we need to take into account what practitioners would need to have in place in order to deliver specific interventions</p>
<p>What is needed</p>	<p>It's important to have a very clear picture of what the intervention will entail; how much time is needed, at what level of expertise, how much preparation of materials, other resources needed, etc.</p> <p>If available, there needs to be clarity about what can be expected in terms of long term gains or efficiency of the intervention, particularly if they require more resources than would typically be the case.</p> <p>It is this information that helps to determine whether practitioners are able to deliver the intervention as it was delivered in the research.</p> <p>If, for example, the research showed an intervention to be effective with daily 1 hour sessions from a speech and language therapist, a practitioner needs to know these are the parameters around which the intervention was evidenced in the research. If adaptations are needed to enable delivery, it means the intervention is no longer being delivered as in the research and therefore outcomes may not be the same.</p> <p>This therefore means that the intervention needs to be presented clearly, so as to ensure that expectations and implications are clear in order to make decisions as to whether interventions are worth an investment of staff time, resources and money.</p>

What Works: A guide to evidence > Part 1 - Explanation of the What Works criteria > Section 2 - Access and delivery

Criteria 5 - There is enough clear information to enable a service or practitioner to deliver the intervention (Essential)

Why this is important	In order for practitioners to truly ensure that the interventions they are using are evidence based, they need to have enough information to enable them to deliver the intervention with fidelity, that is, in the same way as during the research.
What is needed	Interventions need to be presented in a way which allows practitioners who are new to the approach to understand and deliver the intervention as it was delivered in the original research. For example, if an evidenced intervention listed is based on a 6 week, weekly programme, the practitioner needs details of the programme in order to maintain the fidelity of the intervention and therefore ensure it will be more likely to replicate the original findings.

Criteria 6 - Information is provided about:
a) the target client group
b) staff required to deliver the intervention
c) the setting where the intervention should take place (Essential)

Why this is important	These outline the search criteria that practitioners use when they search for evidenced interventions via the <i>What Works</i> database.
What is needed	This information is essential to allow the intervention to be identified as something useable for a particular client group, practitioner or setting. For example, a primary school teacher searching for a universal approach to support the language development of the children in their class needs to be signposted to the relevant approaches. These will be very different to a specialist intervention for a preschool child with complex needs.

What Works: A guide to evidence > Part 1 - Explanation of the What Works criteria > Section 2 - Access and delivery

Criteria 7 - The intervention is feasible and information is presented to allow practitioners to make a decision regarding whether an intervention can be introduced within budget, given available resources, materials, and time (Essential)

Why this is important	The interventions listed on <i>What Works</i> need to be accessible and useable. To encourage evidence-based practice, interventions need to show that they are feasible to implement.
What is needed	For the <i>What Works</i> database to meet its aims, we want practitioners to be able to use the evidenced interventions listed, which is only possible if there is clear information available as to the cost, time and resource implications of an intervention. Therefore, interventions submitted should include information to allow practitioners and teams to make a decision as to whether an intervention is feasible to deliver within their individual constraints.

Criteria 8 - *The intervention is clear and specific around the resource implications of delivery, including information on materials and levels of staff competence/training (Desirable)*

Why this is important	This criteria can support practitioners or teams make decisions around interventions and approaches that they are able to offer.
What is needed	To ensure best practice around evidence based interventions and approaches, it's important that the intervention is clear about the requirements that are needed in order to adopt the intervention. For example, a speech and language therapy service looking to develop or extend its service to preschool children with complex needs would need to be able to clearly see exactly what the implications and expectations would be if, for example, they were to offer Pre School Autism Communication Therapy to all children with a diagnosis of ASD.

What Works: A guide to evidence > Part 1 - Explanation of the What Works criteria > Section 2 - Access and delivery

Criteria 9 - It is clear in the information whether there is formal training involved and a procedure to be followed or if the intervention/approach is principally a set of materials to be freely used (Essential)

Why this is important	For teams or practitioners to implement evidence based interventions as part of their practice, this needs to be clear to ensure the fidelity of an intervention or approach being used.
What is needed	This information not only has implications for those making decisions around implementing interventions as there are often costs associated with training, but it also maintains the fidelity of the evidenced intervention or approach in that it will be faithful to the original research. For example, no training would be required for a teaching assistant to implement the Living Language approach, whereas for a speech and language therapy service to implement the Palin PCI approach the practitioners would need the information within the manual and to have received the relevant, associated training.

What Works: A guide to evidence > Part 1 - Explanation of the What Works criteria > Section 2 - Access and delivery

Section 3 – Evaluation

Criteria 10 & 11 - There is a description of how the intervention has been formally evaluated, with the appropriate experimental control for the question being asked (Essential)

- The level of evaluation (indicative/moderate/strong) is indicated and explained, e.g. moderate because there was a single randomised controlled study carried out (Essential)

Why this is important

Details of the evaluation are important to enable analysis of how strong the evidence is around a particular intervention. The level of evaluation used is crucial to the Moderating Group's decision as to the strength of evidence behind an approach or intervention.

The evidence is listed as either 'indicative' 'moderate' or 'strong', depending on how the intervention has been evaluated.

What is needed

This element is about the research design and how robust the evidence is. The evaluation that you use is directly linked to the strength of the evidence behind an approach or intervention.

Evidence may be graded as **strong** if it includes at least one systematic review plus subsequent trials as available - systematic reviews are high level research around a specific research question, that aims to gather the evidence related to that research question in order to answer it. **'Strong'** evidence will demonstrate a review of previous literature and evidence and will also show evidence from further trials.

For example, a recent systematic review of stuttering treatments found that 6 out of 13 treatments for children who stammer used studies from evidence behind the Lidcombe Programme.

Evidence may be graded as **moderate** if it meets **one** of the following criteria:

1. Single (or multiple) randomised controlled trial – this level of evaluation would include a random assignment of children or young people to groups; a control group and an intervention group.

For example, the Talk Boost intervention was evaluated using 160 children who were allocated randomly to an intervention or a control group.

2. Quasi-experimental study – this type of experiment compares different groups of participants on some measure, with group membership usually manipulated by the researcher. Participants aren't randomly allocated to groups. For example, the evidence associated with the Naturalistic Speech Intelligibility intervention cites quasi experimental design in researching this intervention for children with speech and language impairments.

continues on next page >

What Works: A guide to evidence > Part 1 - Explanation of the What Works criteria > Section 3 - Evaluation

Criteria 10 & 11

What is needed

Evidence may be graded as **indicative** if results have been analysed using appropriate statistics to show a statistically significant difference using **one** of the following research measures:

1. Control and targeted items are measured in a before and after design

– this would be a research design showing baseline measures prior to an intervention or approach and outcome measures after an intervention or approach.

2. Recently standardised assessments are used as comparison and control measure (standardised on an appropriate sample) in a before and after design.

Standardised assessments are accepted by the moderating group as a way to show changes within a before and after research study.

And **one** of the following research designs:

3. A case series with a multiple baseline design – a case series tracks the progress of a group of children with a similar need during an intervention e.g. phonology therapy. A multiple baseline design means that the intervention would be staggered, for example all children would have an initial baseline phonology assessment completed, then they would all begin their therapy at different times. If participants showed a significant change in their speech across the before and after measures, with the changes seen during the period of the intervention, then this infers that the treatment works and change is not attributed to another factor.

4. A matched control group is used in a group comparison (sample size large enough to calculate an effect size) – where a control group is used, the group needs to be matched. For example, a control group may be children of a similar age, with similar speech, language and communication needs.

[This paper](#), which contributes to the evidence behind Palin Parent Child Interaction Therapy shows examples of all of the above indicative criteria.

N.b. Descriptive case studies without any experimental control will not be accepted onto the database, but may be submitted to be included in our 'in practice' section, which consists of case studies associated with included interventions. You'll notice that all the above evaluation methods have some element of control. This allows us to have more certainty that it is an intervention or an approach that is having an effect, and not any other factor within a child or young person's life.

What Works: A guide to evidence > Part 1 - Explanation of the What Works criteria > Section 3 - Evaluation

Criteria 12 - The intervention has been evaluated wider than by the initial developer and a description of this evaluation is included (Desirable)

<p>Why this is important</p>	<p>Interventions developed and evaluated by the initial developer can sometimes prove difficult to replicate in terms of outcomes when evaluated more widely. When interventions are evaluated by other researchers, gaining similar results, it gives strength to the research and suggests a more robust intervention.</p>
<p>What is needed</p>	<p>It's important to include any further evidence that supports the evaluation of an intervention or approach, where possible. Additional research adds to the evidence and can give a greater understanding of essential components of interventions. For example, the references associated with the Lidcombe Programme are not all evidence from the original developer, they also include evaluations of the programme that have been completed by other researchers interested in interventions for supporting children who stammer, adding to the evidence base behind the approach from multiple sources.</p>

Criteria 13 - It is demonstrated that it is possible to assess treatment fidelity, that is, the capacity of those who use the intervention to stick to what is expected in the manual, with an explanation of what makes it easy/difficult to stick to the intervention as originally intended (Essential)

<p>Why this is important</p>	<p>An important element of evidenced interventions is how possible it is to deliver as intended. It is important to understand how well this happened as part of the evaluation and what made it possible for practitioners to deliver the intervention as intended.</p>
<p>What is needed</p>	<p>This information helps the moderating group to see how well this was captured as part of the evaluation process, for example, whether practitioners needed a lot of support from researchers to deliver the intervention and why. It can also give those wanting to use the intervention ideas on what makes it easier to deliver. For example, building in planning and timetabling for interventions that need to be delivered over a period of time.</p>

What Works: A guide to evidence > Part 1 - Explanation of the What Works criteria > Section 4 - Research design

Section 4 – Research design

Criteria 15 - The evidence relates to the exact intervention being submitted (Essential)

Why this is important	For the moderating group to make a decision around the level of evidence behind an intervention or approach, it needs to be the approach or intervention itself that has been evaluated.
What is needed	Published papers on similar interventions, the theoretical basis for the intervention, elements of the intervention in conjunction with other interventions, or interventions 'inspired by' the intervention submitted will not be accepted. Any evidence submitted needs to relate directly to the intervention itself. For example, while evidence relating to the value of working with parents of children with ASD is a useful theoretical basis for the Hanen More Than Words programme, they don't actually provide evidence for the programme itself.

Criteria 16 - It is clear how children were allocated to the intervention and control groups (Essential)

Why this is important	The way in which children are allocated to control or intervention groups has an impact on the level of evidence.
What is needed	Because the control group element of the research is an essential criteria in evaluating the level of evidence, the element of control is important to make clear in any submission to the <i>What Works</i> database. In order to attribute outcomes to an intervention, children need to be allocated to intervention groups (children who receive the intervention) and control groups (children who don't receive the intervention). In order for the moderating group to make a decision around the level of evaluation it needs to be clear if children were randomly assigned to groups (a stronger level of evidence) or not (weaker evidence).

What Works: A guide to evidence > Part 1 - Explanation of the What Works criteria > Section 4 - Research Design

Criteria 17 - It is made clear what happened to all the children who started in a study; if some did not complete the intervention, it is stated why this was (Essential)

Why this is important	The moderating group will use this information to inform their decision making around evidence levels; a study may start with several children, but if only one completes an intervention, then this has an impact on the level of the evidence.
What is needed	All research should state the number of children or young people involved in a study and how many children or young people completed the intervention. For example, if several children don't complete an intervention because their parents felt that their difficulties were resolved in 6 sessions and didn't require a further 6 of a 12 week programme, then this has implications for the delivery of the intervention. Or, if the intervention was only effective for one child within the treatment group, this also has implications for the effectiveness of an intervention.

Criteria 18 - *Assessors were 'blind' to the nature of the research and evaluation so as not to create a bias (Desirable)*

Why this is important	The use of 'blind' assessors adds to the credibility of the evaluation of the research as it minimises the risk of bias.
What is needed	This is not an essential criteria, but blind assessment means that the person who is completing the assessment looking at the effectiveness of the intervention, for example the pre and post standardised assessment, is 'blind' to whatever it is that is being tested and therefore not influenced by this knowledge.

What Works: A guide to evidence > Part 1 - Explanation of the What Works criteria > Section 5 - Publication

Section 5 – Publication

Criteria 19 - The evidence is published in the public domain (not including PhD and Masters theses) (Essential)

Why this is important	The <i>What Works</i> moderating group and users of ' <i>What Works</i> ' need to be able to access the evidence that supports your intervention; research that is available in the public domain is more likely to be valid and reliable. It is also important we provide information across the sector to be shared and developed more widely.
What is needed	Information should be available in the public domain, which might mean a published paper in a peer reviewed journal, through to an organisation publishing reports on their websites, or local publishing of project papers available through local websites. It is important that information is widely accessible as <i>What Works</i> cannot provide all the information needed to carry out an intervention and practitioners may need to refer to published papers to gather further information to allow them to deliver an intervention accurately. Therefore, Masters theses are not included in this category, unless they have been published more widely.

Criteria 20 -The evidence is published in a peer reviewed journal (Essential)

Why this is important	It is essential that at least a piece of evidence has been peer reviewed. This enhances its credibility.
What is needed	Peer reviews are essential to ensure that research is of a high quality – it's a way to quality assure the evidence and the way in which it's been evaluated.

What Works: A guide to evidence > Part 1 - Explanation of the What Works criteria > Section 6 - Outcomes

Section 6 – Outcomes

Criteria 21 - Outcomes on child speech, language and/or communication form part of the evidence (Essential)

Why this is important	The research needs to show how the intervention affected the speech, language and/or communication of the children or young people involved.
What is needed	It's important that interventions or approaches listed on <i>What Works</i> are linked with speech, language and/or communication outcomes, even if these outcomes aren't necessarily positive. The moderating group makes decisions based on the level of evidence behind an intervention, not the outcomes of that intervention. However, it's important that the outcomes from a piece of research are clearly stated, to allow clinical decisions to be made around whether an intervention or approach would have the desired outcomes for the client group.

Criteria 22 - Outcome measures used are both valid and reliable (Essential)

Why this is important	Valid and reliable outcome measures don't impact on decision making around the level of evidence, but do allow practitioners to look at how effective an intervention or approach is.
What is needed	An outcome measure is the way in which an intervention is assessed. Therefore, in order to be able to say whether an intervention or approach leads to better outcomes for children's speech, language and/or communication, the way in which the intervention is measured needs to be valid and reliable. For example, a standardised assessment is a much more valid, objective way of measuring the impact of an intervention than a child self rating scale.

What Works: A guide to evidence > Part 1 - Explanation of the What Works criteria > Section 7 - Population

Section 7 – Population

Criteria 23 - The intervention is for children and young people (age range 0-25) and addresses speech, language and/or communication (Essential)

Why this is important	<i>What Works</i> is a database that lists evidenced speech, language and communication interventions for children and young people.
What is needed	The 2014 Children and Families Act defines a child or young person as being between the ages of 0-25, which is why we have chosen this age range.

What Works: A guide to evidence > Part 2: Information on other resources and further guidance

Part 2: Information on other resources and further guidance

Research support for members of the Royal College of Speech and Language Therapists

RCSLT offers a wealth of information to members on accessing and conducting research. In the online Research Centre, within the Members Area of the RCSLT website, you'll find advice, guidance, and tools for carrying out research, for developing evidence-based practice, and for accessing research. Specific resources include a library of journals free to access for members, outcome measurement tools, and frameworks for research.

For those looking to carry out their own research, support includes advice on seeking funding and publishing, and case studies from other clinical researchers. For those seeking to ensure that their practice is informed by current research there are links, guidance and resources focussed on evidence-based practice. And for staying up-to-date with recent research, there are links to free-to-access journals and publications.

Once logged in to the RCSLT website, you can access the Research Centre [here](#).

Information on accessing research

Accessing recent research can be a challenge when not connected into an academic institution and without subscription to the large online research libraries. However there are a number of free, open-access online databases of research, as well as ways of accessing research through libraries, academic institutions, etc. You can find links to some of these on the following page.

What Works: A guide to evidence > Part 2: Information on other resources and further guidance

Resource	Web address
The Cochrane Library of systematic reviews – an open-access database of systematic reviews	www.thecochranelibrary.com/view/0/index.html
Directory of Open Access Journals – a searchable database of nearly 10,000 open-access, peer-reviewed journals	http://doaj.org/
ScienceDirect Open Access – a section of the ScienceDirect database of journals, which lists journals that are either entirely open access or contain some open access articles	www.sciencedirect.com/science/jrnllallbooks/all-open-access
Wiley Open Access – Wiley Online Library's small selection of open access journals	www.wileyopenaccess.com/view/journals.html?page=1
Access to Research – a project by which a large number of UK public libraries now offer free access to thousands of research journals and articles	www.accesstoresearch.org.uk/
CORE – offers access to a large number of scholarly articles by aggregating information from other Open Access sources	http://core-project.kmi.open.ac.uk/
UCL Discovery – access to research conducted at University College London	http://discovery.ucl.ac.uk/
NICE Library – NHS employees can access journals and databases using an Athens password	http://www.nice.org.uk/about/what-we-do/evidence-services/journals-and-databases
What Works Clearinghouse – summary reports on the evidence for various education interventions from the Institute of Education Sciences	http://ies.ed.gov/ncee/wwc/

What Works: A guide to evidence > Part 2: Information on other resources and further guidance

Information on conducting research

There is a vast array of support and tools available to guide you in conducting research, wherever you are in the research process and whatever your level of experience. Most of the resources below are from health and education, and are just some of those available online; many universities in particular produce guides to conducting research.

Resource	Web address
Research Toolkit – guidance on conducting health research	www.researchtoolkit.org/
Guide to evidence-based practice – developed by ASHA (American Speech-Language-Hearing Association)	www.asha.org/members/ebp/
Getting involved in research: a pocket guide – produced by the National Physiotherapy Research network and likely of use to allied health professionals and others	http://www.csp.org.uk/publications/getting-involved-research-pocket-guide-free-download
Research use in schools – one of the Education Endowment Fund's current strands of work, involving several projects	http://educationendowmentfoundation.org.uk/projects/projects-a-z/?tile=1&ids=016741676167516731672
National Foundation for Educational Research – some basic guidance on conducting research in schools	http://www.nfer.ac.uk/schools/research-in-schools/
Coalition for Evidenced-based Education – has several initiatives/projects aiming to support practitioners and managers in school to access and apply research in education	http://www.cebenetwork.org/
Ethical standards in research – ethical considerations when conducting research with children from the Society for Research in Child Development	www.srkd.org/about-us/ethical-standards-research
Speechbite – provides links to a number of resources about evidenced-based practice and also produce a regular newsletter with recent research	http://speechbite.com/ebp/links/
Creating Practice-based Evidence – A Guide for SLTs (Corrine Dobinson and Yvonne Wren (Eds))2013 J&R Press Ltd – this book provides practical information, advice and guidance to support practitioners to get started with research as part of everyday clinical practice	www.jr-press.co.uk/creating-practice-based-evidence.html

What Works: A guide to evidence > Glossary

Glossary

Speech, language and communication terms

Articulation

The movement of the articulators, ie: lips, tongue, soft palate, larynx etc., with the hard structures in the mouth (the hard palate, teeth etc) to produce speech sounds

Comprehension/Receptive Language

Understanding language; what is said, signed or written.

Dyspraxia/Developmental Verbal Dyspraxia/Childhood apraxia of speech

A motor speech disorder affecting the planning and co-ordination of muscle movements.

Phonological delay/disorder

A phonological delay or disorder affects the child's sound system, which means they struggle to use the right speech sounds in the right places in words, resulting in their speech being unclear and difficult to follow

Phonological awareness

This is the awareness of the sounds within language. It's linked with rhyming skills, breaking words down into sounds or syllables and being able to manipulate sounds

Pragmatics

The way a person uses language in social contexts, including both verbal and non-verbal communication

Expression/Expressive Language

The choice and arrangement of words into phrases and grammatical sentences - spoken, written or signed

Morphology

The structure and form of words. Includes word endings, prefixes, root etc

Phonology

The rule based system of sounds used in speech

Semantics

Knowledge of the meaning associated with a given word, or combinations of words

Social communication

Includes the interrelated skills of social interaction, social cognition, pragmatics (verbal and nonverbal), and receptive and expressive language processing

Syntax

The rules of combining words in sentences (grammar)

What Works: A guide to evidence > Glossary

Research design terms

Before and after study / Pre and post design

An evaluation study in which children are assessed before the intervention and immediately afterwards but where there is no comparison group.

Blinding

Process of concealing group allocation (i.e. control or experimental group) from the participant, researcher or both

Control group

This is the group of people recruited to a trial who will, collectively, form the group for comparison. A control group could receive current best treatment (where it would be unethical not to offer treatment) or may receive a placebo intervention.

Effect size

Term given to the size of the difference between the outcomes in intervention and comparison groups (which may or may not be a desirable or intended outcome).

Evidence-based practice

A way of making decisions about care/ education, based on the best quality research evidence available. Evidence-based practice requires the clinician/ practitioner to not only be familiar with current and past publications on a topic but also to actively balance the quality of each piece of evidence when making a decision for a specific individual.

Face validity

It makes theoretical and practical sense and essential components are transparent.

Intervention

A term used to define the provision of systemised additional support for children with speech, language and communication needs over and above what they would otherwise receive in the class or elsewhere.

Level of evidence

Term used to define how much confidence the evidence allows us to rate in the effectiveness of a given intervention. On 'What Works', the level of evidence is defined as either 'strong', 'moderate', or 'indicative'. You can find an explanation of each of these on the website.

Mixed results

Shows positive results for either certain children or certain aspects of the skill targeted by the intervention and less positive results for other children or other aspects.

Peer review

The process by which experts in a field use each other to test the validity of new information or professional practice. Peer reviewing processes are used to judge the quality of research applications, the quality of scholarly articles, the validity of expert opinion etc.

Quasi-experimental

Intervention studies where people are not randomly allocated to groups – for example they may be matched or allocated alternately. Before and after trials are an example of this.

Randomised control trial (RCT)

A study in which people are assigned at random (by chance alone) to receive one of several treatment conditions, including the experimental treatment and either a different type of treatment or no treatment

Systematic review

A summary of the scientific literature which demonstrates clearly how included studies were identified, and critically appraised such that it could be repeated by someone else following the same procedure.

Sources

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/219623/DFE-RR247-BCRP10.pdf

<http://www.asha.org/members/ebp/Glossary/>

<http://www.crn.nihr.ac.uk/wp-content/uploads/mentalhealth/sites/21/Research-methodology.pdf>