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What's the Evidence for Involving Parents in Intervention for Speech Sound Disorders?

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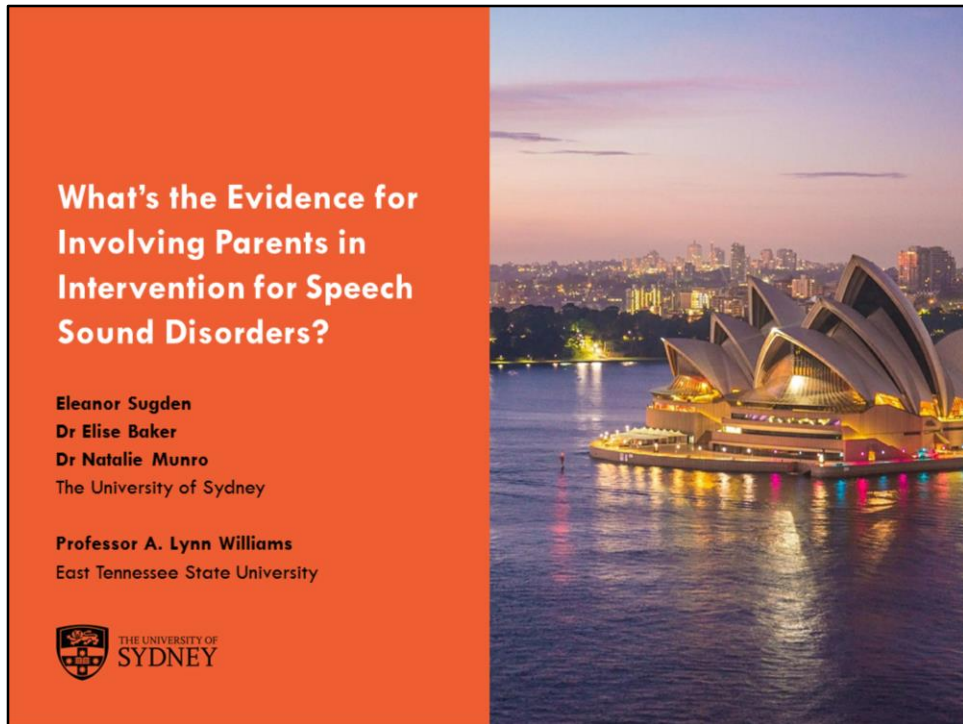
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What's the Evidence for Involving Parents in Intervention for Speech Sound Disorders?

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Thank you for coming. My name is Ellie Sugden, and I will be presenting the results of a review of the empirical evidence base for parent involvement in intervention for phonology-based speech sound disorders. Before we begin, I would like to acknowledge my co-authors, Dr Elise Baker and Dr Natalie Munro from the University of Sydney, and Professor A. Lynn Williams from East Tennessee State University.

As we explore the evidence base for involving parents in intervention, our goal today is to raise your awareness and understanding of the role of parents in intervention for phonological impairments, and help you identify practical, evidence-based strategies for involving parents within your own research and clinical practice.

Disclosure

No financial or non-financial relationship(s) with the products or services described, reviewed, evaluated or compared in this presentation

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- Student Research Travel Award (ASHA)

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I have no relevant financial or nonfinancial relationship(s) with the products or services described, reviewed, evaluated or compared in this presentation.

I would like to acknowledge...

If you are into twitter, please feel free to tweet me. I'd love to continue talking about my research with you.

Overview of Presentation

1. Why involve parents in intervention for speech sound disorder?
2. Method for conducting the systematic search and review
3. How have parents been involved in intervention?
4. Clinical and research implications

In this presentation, I will cover several things:

Firstly, I'll present some background literature which identifies why speech-language pathologists internationally are involving parents in intervention for speech sound disorder.

I'll then present how we conducted the systematic search and review of the evidence base for involving parents in intervention.

I will then present the results of how parents have been involved in intervention within the evidence base, and finally discuss some of the key clinical and research implications of these findings.

Why Involve Parents in Intervention?

- Speech sound disorder (SSD) makes up more than 40% of clinicians' caseloads
- Children with SSD at increased risk of...
 - Literacy difficulties
 - Bullying
 - Reduced economic and vocational potential
- Clinicians need to deliver timely, efficient and effective therapy



SSDs are very common in the preschool population. Globally, children with SSD make up more than 40% of Speech-language pathologist's caseloads

We know that children with SSD are at an increased risk of literacy difficulties and bullying. Additionally, children with SSD have reduced economic and vocational potential when compared to their typically-developing peers.

To reduce these negative outcomes, it is imperative that speech-language pathologists deliver timely, efficient and effective therapy to this large portion of their caseload.

Why Involve Parents in Intervention?

- Intervention intensity (Warren, Fey & Yoder, 2007)
 - Frequency of sessions (e.g. 1 x week)
 - Duration of sessions (e.g. 45 minutes)
 - Dose (e.g. 70 practice opportunities per session)
- Clinicians should deliver intervention in line with the empirical intensities
 - 2 – 3 individual sessions per week
 - 30 – 60 minutes
 - Delivered by a clinician



This can be challenging!

We know that several effective interventions exist for treating phonology-based SSD. In line with evidence-based practice, these interventions should be delivered according to the empirically-tested intensities. Previous researchers have defined intensity to include, among other things, the frequency and duration of sessions, and the dose of intervention provided in each session.

A review of the phonological intervention literature by Elise Baker and Sharynne McLeod found that most intervention research has delivered intervention at the following intensity. 2-3 individual sessions per week, each lasting 30-60 minutes, delivered by the SLP.

Surveys of clinical practice here in the US and internationally have shown that this intensity does not always occur. For the majority of SLPs who are stretched thin with resources, time, staffing, huge caseloads, service delivery restrictions, delivering intervention at this intensity this can be very challenging.

How can SLPs balance this need to deliver evidence-based intensities within their limited time and resources?

Why Involve Parents in Intervention?

- Can parents be involved in intervention for SSD?
- Clinicians are frequently involving parents in some way when treating SSD
 - Over 75% Always or Often involve parents (Joffe & Pring, 2008)
 - 95% ask parents to complete homework (McLeod & Baker, 2014)
 - 71% of US school-based clinicians provide a home program (ASHA NOMS data)

What is the empirical evidence for this practice?



Perhaps SLPs can engage parents in intervention, and ask them to complete intervention activities at home.

Surveys of SLPs have shown that parents are frequently involved in their child's intervention (brief summary)

We wanted to determine what the empirical evidence says about involving parents in intervention and about the type of homework given to children with SSD.

Method for Conducting the Systematic Search and Review

Search Process

- Peer-reviewed intervention research
 - Published from 1979 to 2013
- Searched multiple databases
 - E.g. Medline, SpeechBITE, ASHA's online search site
 - Hand searches of reference lists and our personal article databases
- Search terms (examples)
 - Phonological / phonology / speech sound disorder
 - Intervention / treatment / therapy
- Included references from Baker & McLeod (2011)



Identified 176 suitable papers

Analysed in two stages

We conducted a systematic search and review of the evidence base for phonological intervention research.

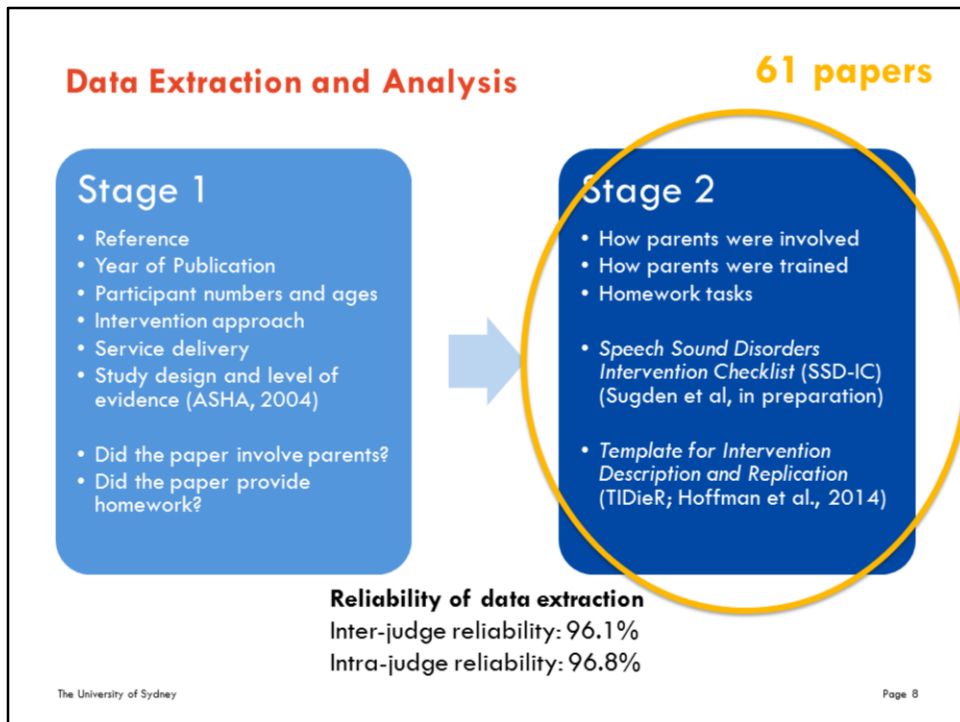
We were interested in finding peer-reviewed research published between 1979 and 2013 that reported on intervention for phonology-based SSD.

We searched multiple electronic databases, as well as conducting hand searches of reference lists and our own collections of literature to find papers that met the inclusion criteria.

We used a range of different search terms, such as phonological, phonology and speech sound disorder

We also included references from a previous review of intervention literature conducted by Elise Baker and Sharynne McLeod.

In total, we identified 176 papers that reported on intervention research for phonology-based SSD. These were analysed in two stages.



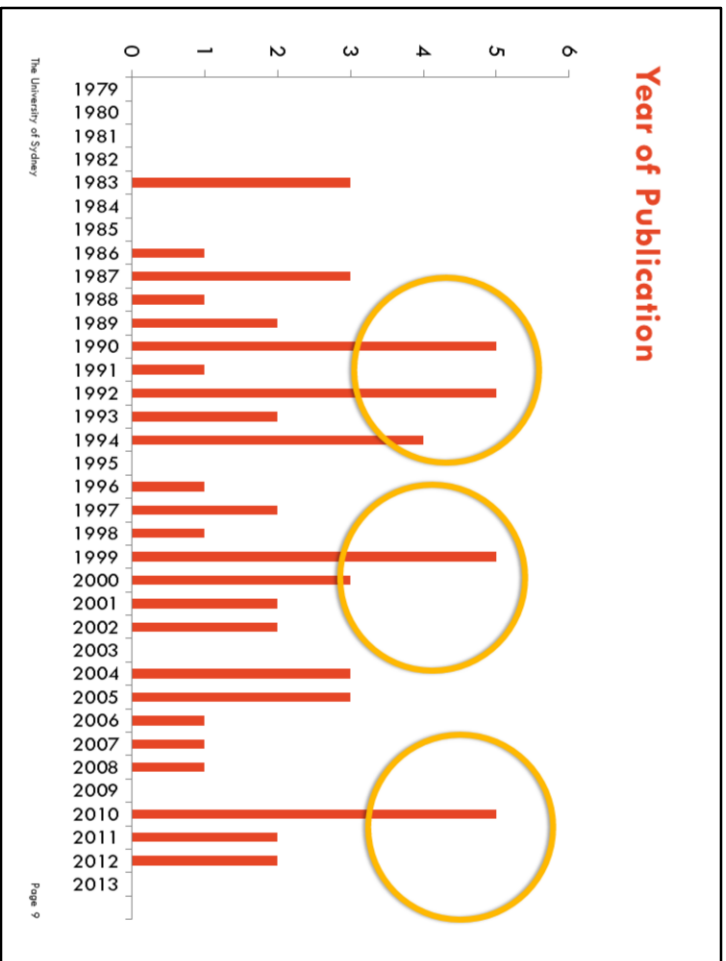
In Stage 1, we extracted the following information from each study (refer to box)

We then analysed these 176 papers to determine if parents were involved in intervention, and if homework was provided. The papers that included these practices were then subject to further analysis in stage 2.

These studies were then subject to an appraisal of study quality. Given that the included papers represented a range of study designs, there was no published quality appraisal tool that we could use. Following an example set by other researchers, we developed our own quality appraisal checklist – the SSD-IC. Additionally, the papers that included parents and/or homework were analysed using the TIDieR checklist. This checklist considers the description of an intervention within a paper and its replicability.

Finally, reliability of the data extraction was calculated on 10% of the included studies.

In total, we found 61 papers that reported on involving parents and/or providing homework in intervention for phonology-based SSD. I will now present some demographic results of these 61 papers.



Looking at the year of publication, we can see that the 61 papers are spread out over the 34 years looked at in the study, although there appears to be little clusters around the early 90s, early 2000s and in 2010.

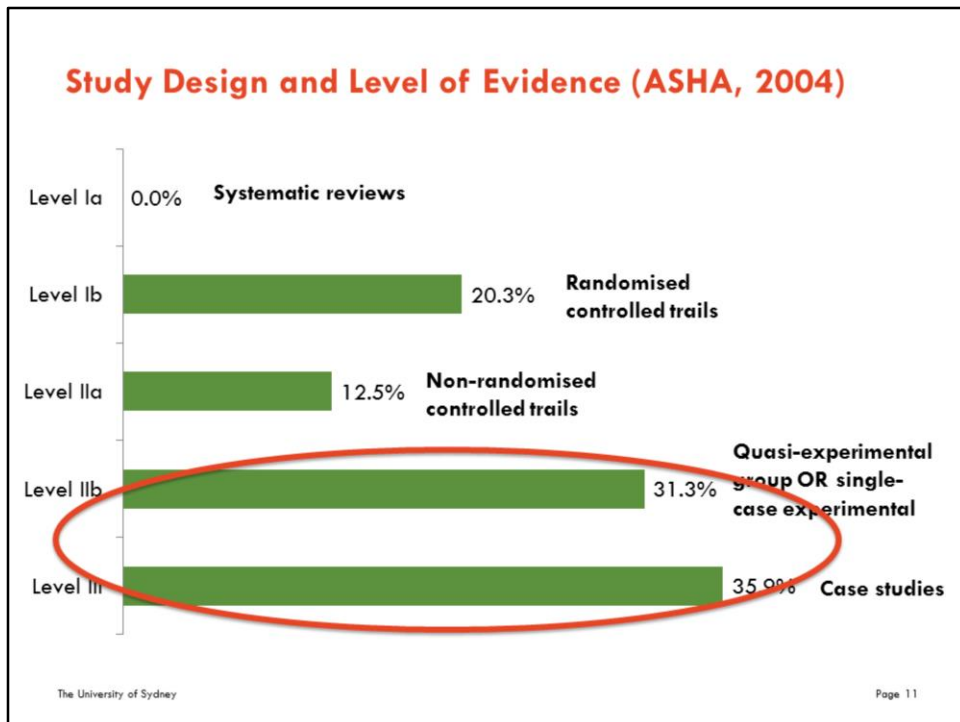
Participants

- Age range
 - 18 months to 9;5
- Concomitant disorders
 - 23 of the studies included children with concomitant disorders
 - e.g. language disorder, stuttering, cleft palate, hearing impairment



Looking at the children who participated in each study, they ranged in age from 18 months to 9 and a half, with most of them being in the preschool range of between 3 and 5 years.

23 of the studies – just over one third- included children with concomitant disorders such as language impairments.



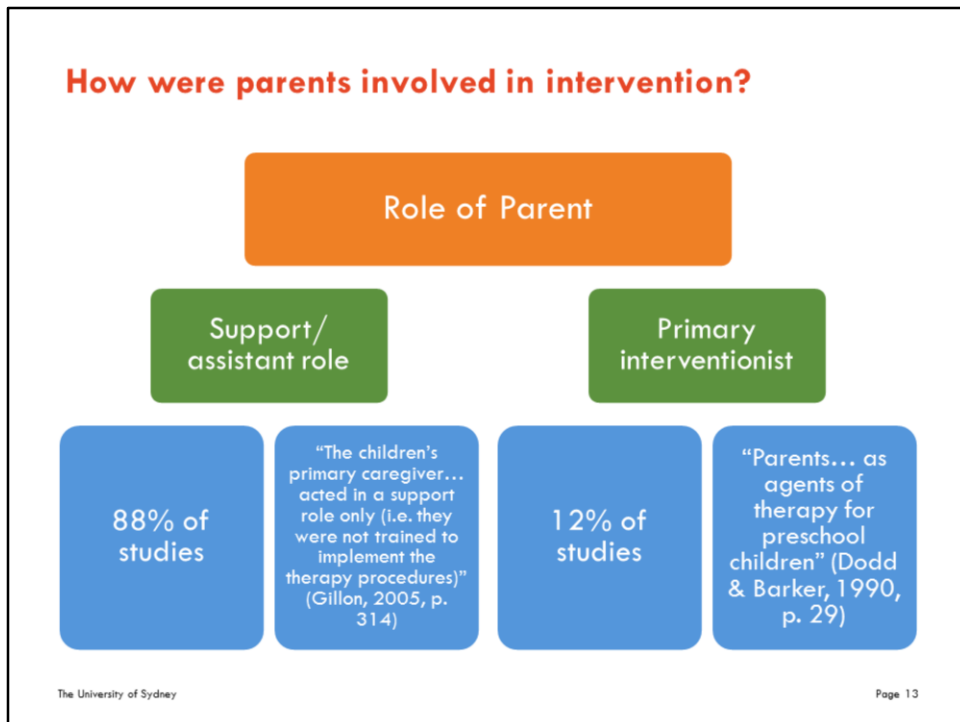
This next graph shows the study design and level of evidence of the included studies.

We can see that most of the studies are towards the lower end of the scale.

**How have parents been
involved in intervention?**



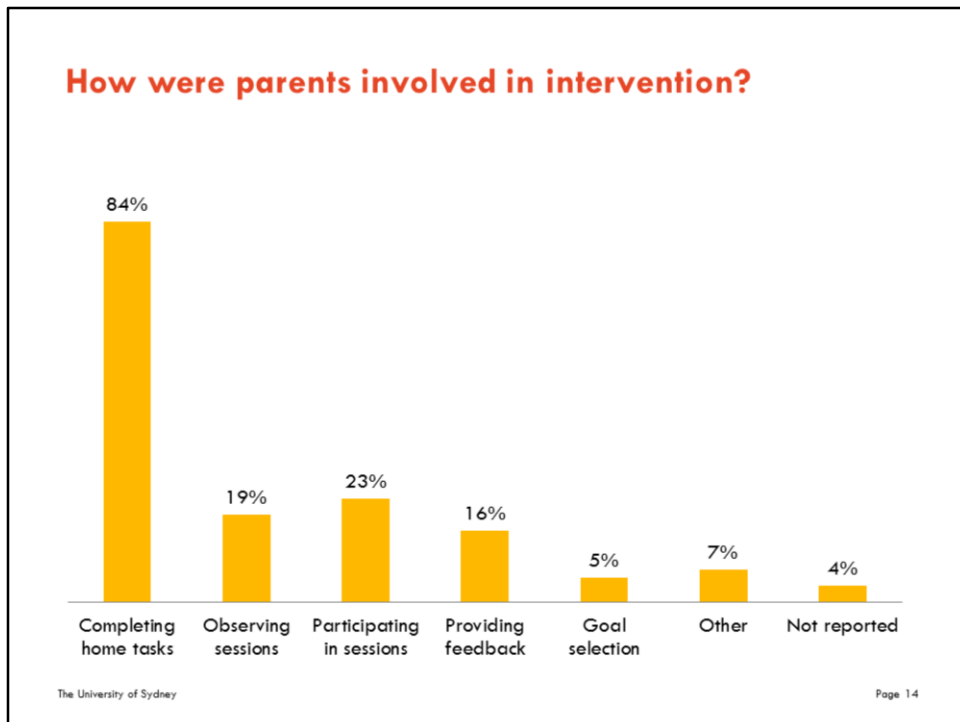
Now we turn to specific details of how parents have been involved in intervention.



When we looked at the studies that involved parents in more depth, we identified two key roles that parents played in intervention within the evidence base.

The first role we identified engaged parents in a supportive or “assistant” role. This may have involved helping out in sessions, and completing home tasks in between SLP-delivered sessions. This was by far the most common model of working with parents. An example is a study by Gail Gillon, in which she stated that parents acted in a support role and were not trained to deliver intervention or to be the primary agent of change for their child’s speech.

The other role identified in the literature aimed to engage parents as the primary interventionist. The aim of these studies was to upskill parents so that they were able to deliver most, if not all, of the therapy. Parents acted as the primary interventionist in 12% of the studies, an example is a study by Dodd and Barker which trained parents to deliver all of the therapy to their child.



If you printed out the handout, you might want to start jotting some things down in the boxes. You might like to think about the sorts of things you do in your own clinical practice, and think about how you could add others

We identified 6 key INTERVENTION tasks in which parents were involved. This graph shows the percentage of studies to involve parents in each of these tasks. Completing home tasks, observing the SLP conduct sessions, participating in sessions, providing feedback to their child within the session, assisting with goal selection, and other activities (which included things like selecting reinforcements and attending a parent support group).

By far the most common of these was completing home tasks – in 84% of the studies that involved parents in intervention.

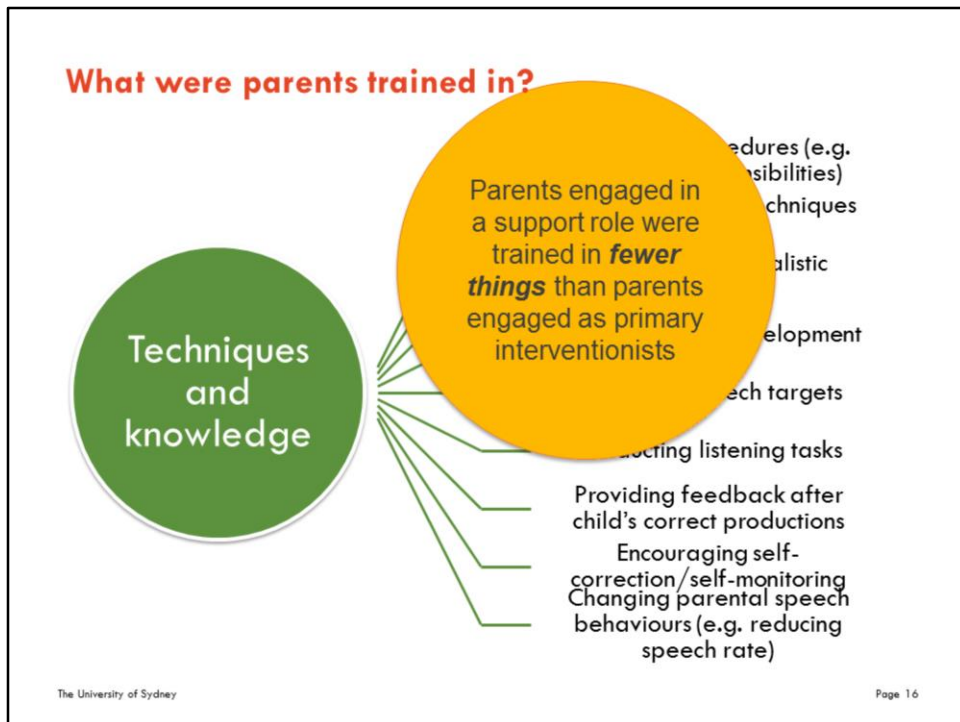
In order to do all of these things, parents need to be trained...

How were parents trained to provide intervention?



However, parents aren't able to just *jump in* and deliver homework activities or treatment straight away. They need to be taught how to do what you are asking them to do.

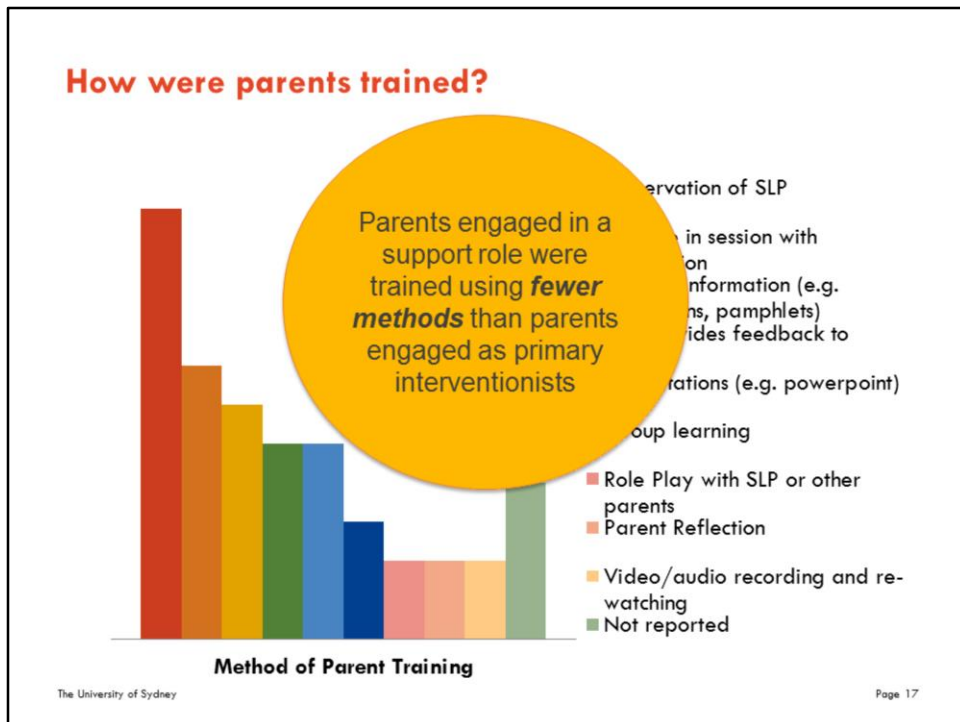
So, that led to our next question: how were parents trained to provide intervention? We went through the papers that involved parents and extracted information about what they were trained in, what training methods or techniques were used to upskill the parents, and also how much training the parents received.



Overall, we found 15 different things that parents were trained in, from learning how to do shared book reading to encouraging self-correction and self-monitoring by the child. I've selected the nine most common things that parents were trained in to show you here.

The most common information that parents were provided was about treatment procedures – such as how often they would be required to work with their child, and what their role would be. The next most common thing that these parents were trained in is in *general therapy techniques*. The studies that included this did not provide details about what this actually meant.

Notably, those parents that were engaged in a support role were trained in fewer things than those parents who were trained to become the primary interventionist.



Given that the literature on adult training methods says that it is best to use multiple strategies when training parents, it is also important to consider how the parents were trained in these treatment techniques.

A range of training methods were used within the empirical literature. The graph shows the frequency of each training method across the parent training protocols identified in the literature.

The most common training method was for parents to observe the SLP conduct treatment with their child, followed by practising in front of the SLP.

Service Delivery of Parent Training

- Mix of models
 - E.g. group, individual, combination
- Mix of frequencies
 - E.g. weekly, fortnightly
- Mix of locations
 - E.g. clinic, home, phone training
- Mix of total number of sessions
 - E.g. one session only, up to 17 sessions
- Mix of durations
 - E.g. 45 minutes, 2.5 hours

Primary Interventionist:

Parents received between 2 and 27.5 hours of training (average 15.8)

Support Role:

Parents received between 45 minutes and 8.3 hours of training (average 4 hours)

We extracted information about how much training parents received, and in what service delivery formats.

We found a large range of service delivery models used when training parents to provide phonological intervention.

Many of the studies did not provide information for all of the intensity variables, thus, we were only able to calculate the total amount of training provided for a few of the studies.

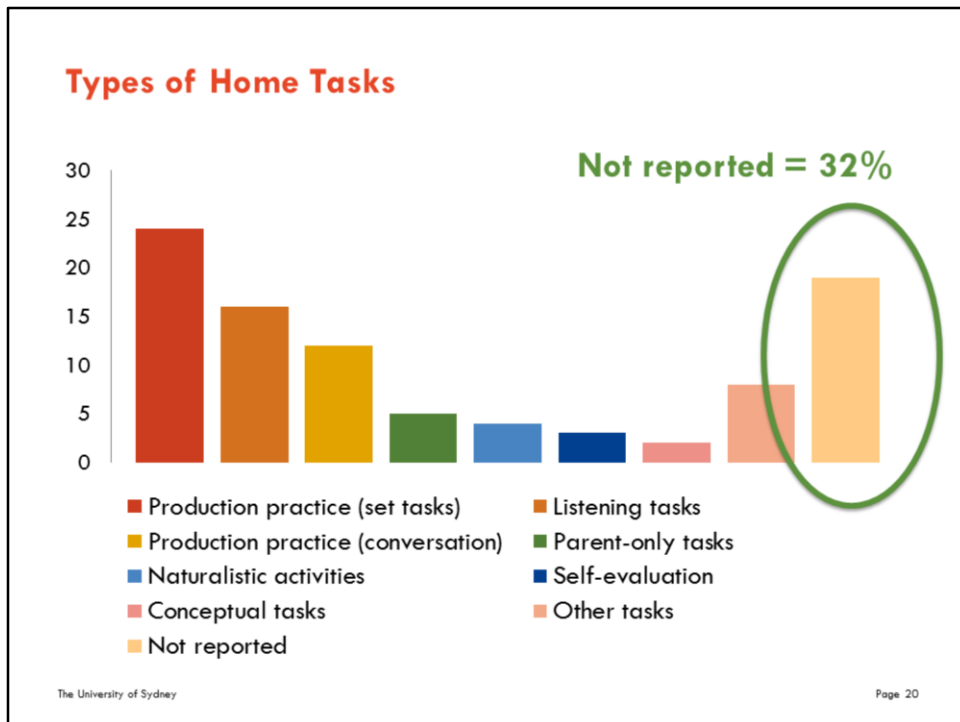
(summarise boxes on slides)

What home tasks were provided?



Let's now turn to the home tasks that were provided in intervention for phonology-based SSD.

When analysing the 61 included studies, we found that the more traditional term "homework" did not adequately represent the range of tasks that were provided. Hence, we've used the term "home tasks" to refer to intervention activities that were completed at home.



Many of the studies provided more than one type of home task within the intervention. This graph shows the prevalence of each home task across the literature.

The most common was production practice during set tasks, which includes tasks such as practising target words in drill play. The next most common home task was listening tasks, which includes input-based activities such as auditory bombardment and auditory discrimination.

Notably, NR = 32% of studies

Service Delivery and Intensity of Home Tasks

<p>Who helped complete it?</p> <ul style="list-style-type: none"> – Parent – Parent and Teacher – Parent and sibling – Parent, family and friends – Not reported 	<p>Intensity</p> <p>Frequency</p> <ul style="list-style-type: none"> – Ranged from more than once daily to less than once a week – 6 – 7 times per week <p>Duration</p> <ul style="list-style-type: none"> – Ranged from less than 5 minutes to 30 minutes – 5 – 10 minutes <p>Dose not reported for 86% of tasks</p> <ul style="list-style-type: none"> – Ranged from 4 to 25 per task
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Added dose from home tasks:
280 – 2800
(Average 1652)

The University of Sydney Page 21

We were interested in the service delivery and intensity of home tasks.

Most of the tasks were completed with parents' help, but other people were also involved.

Looking at the intensity....

Frequency

Duration

Dose – ranged from 4 to 25 per home task

No intensity info for 50% of papers

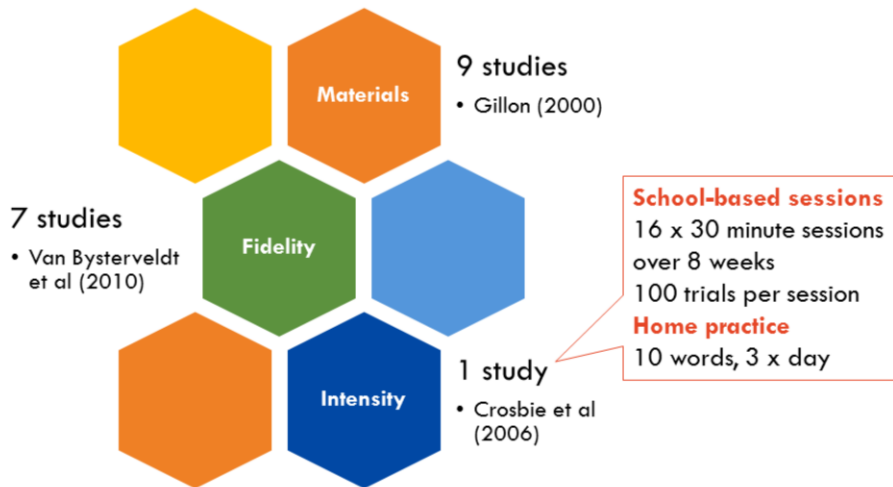
Given that SLPs may be providing home tasks as a way to increase the amount of intervention available to children with SSD, we wanted to see the added dose from home tasks...

Replication of Intervention: The TIDieR Checklist



Now I will present results from the TIDieR checklist, which as you'll recall looked at the reporting of interventions as a way of considering replicability.

TIDieR Checklist (Hoffman et al., 2014)

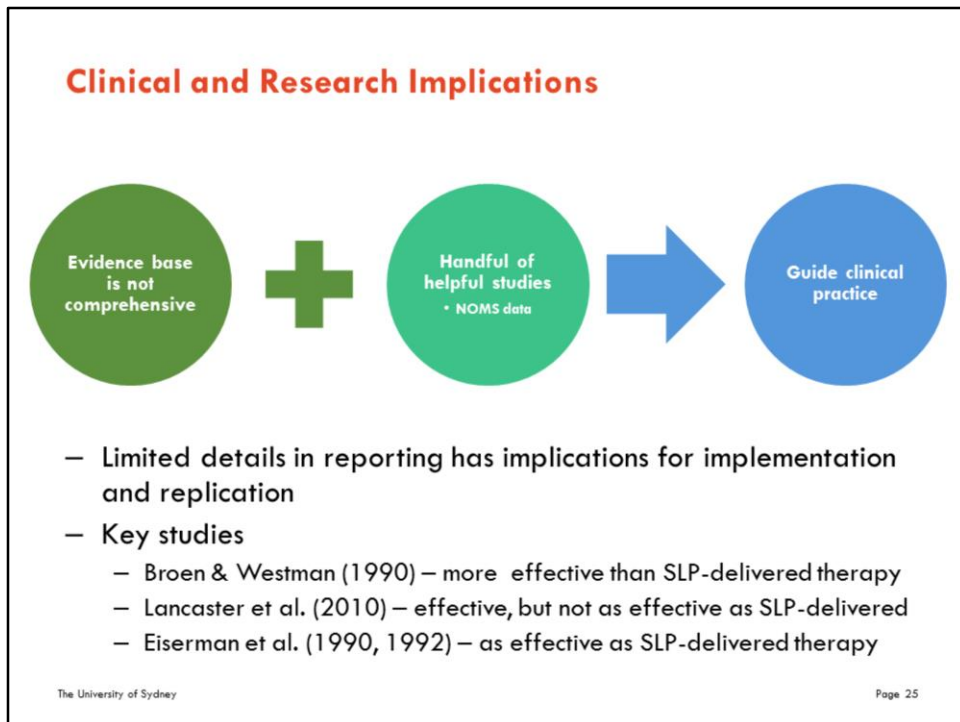


Intensity: 16 x 30 minute sessions over 8 weeks, each comprising 100 trials. Home practice was production of 10 words 3 x daily

What does this mean?

Clinical and Research
Implications





What does this mean?

The results from the TIDieR checklist, and results showing that 32% of home tasks were not detailed, shows that the evidence base is not comprehensive.

This has huge implications for implementation and replication. How can SLPs and researchers conduct interventions when they are not adequately described?

However, don't be too disheartened. We have a handful of really helpful studies that show that parent involvement and the provision of home tasks can be effective practices when treating SSD. For example...

We also have the NOMs data, which show that completing a structured home program in conjunction with SLP-delivered Rx increases the effectiveness and efficiency of therapy.

Replication and Implementation

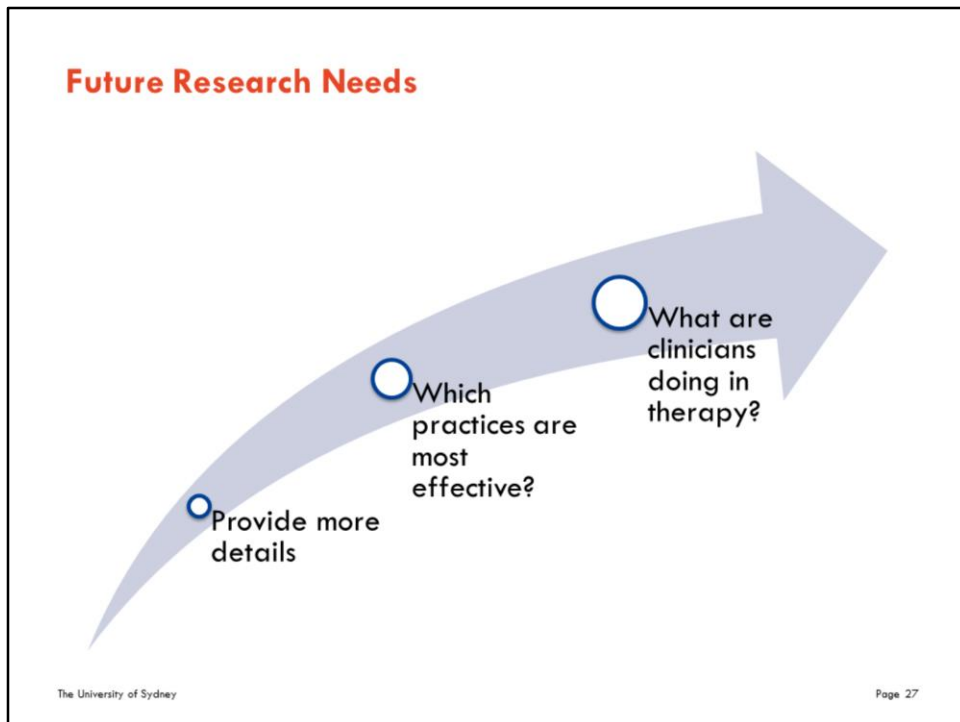


Consult implementation science literature

- Providing online supplementary materials detailing intervention procedures
- Creating procedural manuals for intervention
- Developing resources for intervention
- Conducting workshops with SLPs
- Training local experts
- Publishing tutorial papers

What can we do to improve this, and to help replication and implementation?

Discuss



Summarise

I hope from this presentation you've identified some more ways of involving parents in intervention for SSD. I think they are invaluable resources who we should work with to help the children on our caseloads.

Thank You

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