Putting research into practice:
(Caveat: from a researcher’s perspective)

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Outline

• Summary of the basic facts from Michelle’s talk
• Tips on how to translate this research into effective practice:
  1. Choose an evidence-based intervention:
     • Rowland’s Rules for evaluating evidence
  2. Choose an intervention type carefully.
     • Direct language instruction, shared reading, adult-child relations.
     • Train practitioner or parent or both
  3. Three golden rules for implementation. Interventions must:
     • Adapt to the child age and language level
     • Provide after-care
     • Be sustainable
  4. Summary
• Caveats:
  • This is from a researcher’s perspective
  • Focus is on universal and targeted (for children at risk) services:
Michelle’s Summary: What do children need to do to learn a language?

1. Learn the sounds of their language:
   – Understand and produce speech sounds accurately (/p/, /d/, /m/)

2. Learn to babble:
   – Combine sounds that aren’t yet recognisable words

3. Learn to break up speech:
   – Isolate the sounds in a continuous stream of speech

4. Learn words:
   – What do words mean?

5. Learn grammar:
   – How to combine words into meaningful sentences

6. Learn to communicate:
   – How to interpret the message (speaker’s “intended meaning”)
Summary: What affects how children’s language develops?

- Environment
- Genetics
- Individual’s skills (attention, processing skill etc.)
Summary: What affects how children’s language develops?

- Environment
- Genetics
- Individual’s skills (attention, memory etc)
Michelle’s summary: What we can do to help:

• Hold lots of conversations with children
• Use the types of speech that support language learning:
  – Child directed speech
  – Use decontextualised talk
  – Use diverse and varied vocabulary and sentence structures
  – Contingent talk
• Read books with children
• Target “readiness to learn”
• Train Early Years Professionals to identify children who are struggling
The problem with dialogic reading

“However, the effect size reduced substantially when children were older (4 to 5 years old) or when they were at risk for language and literacy impairments. Dialogic reading can change the home literacy activities of families with 2- to 3-year-old children but not those of families with children at greatest risk for school failure”
Three tips on translating research into practice (caveat: from a researcher’s perspective)

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Choose an evidence-based intervention

“Evidence-based interventions (EBI) are treatments that have been proven effective (to some degree) through outcome evaluations. As such, EBI are treatments that are likely to be effective in changing target behavior if implemented with integrity”

U of Missori’s Evidence Based Intervention Network
http://ebi.missouri.edu/?page_id=52
The next few slides of the talk show a brief demonstration – they are not provided on the handout.
Rowland’s Rules for Evaluating Evidence

1. Check evidence-base prominent on website/materials
2. Check evidence-base is published in peer-reviewed journal articles
   – Not books, websites or personal endorsements
3. Check the journal articles presents at least one empirical study that “tests” the intervention:
   – Rules of thumb:
     • contains Abstract, Background/Introduction, Method, Results, Discussion sections
     • Tests more than a handful of children (e.g. 12 minimum)
     • Compares intervention with a control group
4. Results are *good*, showing intervention works:
   – Effect sizes above 0.3
5. Even better – approach verified by:
   – Randomised control trial (following CONSORT guidelines)
   – Systematic review or meta-analysis
Nuffield Early Language Intervention

The Nuffield Early Language Intervention is an evidence-based oral language intervention for children in nursery and reception who show weakness in their oral language skills and who are therefore at risk of experiencing difficulty with reading. It is delivered over 30 weeks by teaching assistants in groups of 3-4 children.

The intervention was developed by a team from the University of York, who subsequently carried out a randomised control trial in 15 schools and feeder-nurseries across Yorkshire. After 30 weeks, the children who had received the intervention had improved expressive language skills, including the use of vocabulary and grammar. Their letter-sound knowledge and spelling also improved, indicating the foundations of phonics were in place.

After six months, the children in the intervention group had maintained...
Silke Fricke, Claudine Bowyer-Crane, Allyson J Haley, Charles Hulme, Margaret Snowling (2013) - Efficacy of language intervention in the early years. Journal of Child Psychology and Psychiatry

Developing Language and Literacy: Effective Intervention in the Early Years

Julia M. Carroll (University of Warwick), Claudine Bowyer-Crane (University of York), Fiona J. Duff (University of York), Charles Hulme (University of York), Margaret J. Snowling (University of York)

ISBN: 978-0-470-71186-6
Efficacy of language intervention in the early years

Silke Fricke, Claudia Bowyer-Crane, Allyson J. Haley, Charles Hulme, and Margaret J. Snowling

Department of Human Communication Sciences, University of Sheffield, Sheffield; Department of Psychology, Sociology and Politics, Sheffield Hallam University, Sheffield; Division of Psychology and Language Sciences, University College London, London, UK

Background: Oral language skills in the preschool and early school years are critical to educational success and provide the foundations for the later development of reading comprehension. Methods: In a randomized controlled trial, 180 children from 15 UK nursery schools (n = 12 from each setting; $M_{age} = 4;0$) were randomly allocated to receive a 30-week oral language intervention or to a waiting control group. Children in the intervention group received 30 weeks of oral language intervention, beginning in nursery (preschool), in three group sessions per week, continuing with daily sessions on transition to Reception class (pre-Year 1). The intervention was delivered by nursery staff and teaching assistants trained and supported by the research team. Following screening, children were assessed preintervention, following completion of the intervention and after a 6-month delay. Results: Children in the intervention group showed significantly better performance on measures of oral language and spoken narrative skills than children in the waiting control group immediately after the 30 week intervention and after a 6 month delay. Gains in word-level literacy skills were weaker, though clear improvements were observed on measures of phonological awareness. Importantly, improvements in oral language skills generalized to a standardized measure of reading comprehension at maintenance test. Conclusions: Early intervention for children with oral language difficulties is effective and can successfully support the skills, which underpin reading comprehension. Keywords: Intervention, language, mediation, reading, education.

Introduction

It is well established that learning to read builds on oral language skills. To become literate, children (Fletcher, Reid Lyon, Fuchs, & Barnes, 2007; Snowling & Hulme, 2011; for reviews). These studies show that training in the alphabetic principle (letter-sound correspondences)
Results: Children in the intervention group showed significantly better performance on measures of oral language and spoken narrative skills than children in the waiting control group immediately after the 30 week intervention and after a 6 month delay. Gains in word-level literacy skills were weaker, though clear improvements were observed on measures of phonological awareness. Importantly, improvements in oral language skills generalized to a standardized measure of reading comprehension at maintenance test. Conclusions: Early intervention for children with oral language difficulties is effective and can successfully support the skills, which underpin reading comprehension. Keywords: Intervention, language, mediation, reading, education.
** Journal paywalls:

- Check authors’ websites
- Email corresponding author
- Good news – from April 2016, academics have to make articles open access if they are to be submitted to the REF (usually via their University’s repository – check authors’ website)
Three tips on translating research into practice (caveat: from a researcher’s perspective)

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Types of intervention

1. Direct language instruction:
   - (i) explicitly teach specific vocabulary to children, and how these words are defined and can be used in various contexts or
   - (ii) explicitly teach sentence structures or a specific aspects of grammar.

   - More popular in the US than the UK
   - Classroom-based only
   - Tends to have narrow effects:
     - But could be simple way to increase vocabulary/grammar of rising 5s in the months before school
Types of intervention

- 2. Shared reading

- Substantial evidence that reading is very effective at boosting language
- Dialogic reading seems to be better with younger (2-3) than older (3-4) children
- Dialogic reading less effective with children at risk of language and literacy delay:
  - Pause reading better?
3. Adult-child interactions:

- Parents:
  - Encourage responsive parenting (Guttentag et al, 2014)
  - Teach parents to use language-boosting behaviours in interactions (McGowan et al, 2008)
  - Improve parents’ language use generally (O’Neil-Pirozzi et al, 2009)

- Practitioners:
  - Educate about language development
  - Teach practitioners to use language-boosting behaviours in interactions (McGowan et al, 2008)
  - Teach practitioners how to create language-boosting classrooms

- A lot of techniques taught are beneficial for social-emotional development as well as language & communication:
  - E.g. responsive parenting

- Success rate difficult to judge because:
  - Different studies use different tools to evaluate the outcome
  - Different studies use very different interventions
  - This makes it hard to compare across studies to evaluate the effectiveness of these interventions
  - Some interventions with great potential never evaluated properly:
    - Every Child a Talker
Train parent, practitioner or both?

- **Parent:**
  - **Pros:**
    - Spends a lot of time with the child
    - Will be present in the child’s life 7 days a week for 18 years
    - One-to-one more effective than one-to-many.
  - **Cons:**
    - Interventions tend to be less effective. Probably because:
      - Less likely to carry out intervention faithfully (fidelity)
      - Less likely to continue with intervention long-term

- **Practitioner:**
  - **Pros:**
    - Tend to be more effective
      - Practitioners more likely to maintain fidelity
      - Practitioner training means they may have more “expertise” (though not always)
  - **Cons:**
    - Will not be with child long term
    - Only have limited time with the child each day
    - Turn-over of staff means less continuity

**SOLUTION??: Practitioner plus parent**
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Adapting to age & language level

Summary: What do children need to do to learn a language?

1. Learn the sounds of their language:
   - Understand and produce speech sounds accurately (/p/, /d/, /m/)
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6. Learn to communicate:
   - How to interpret the message (speaker’s “intended meaning”)
Some common pieces of advice about how to interact with children to boost language

1. **Think about what language to use:**
   - **MODEL:** Model a wide range of different words and a range of sentence structures in your speech
   - **REPEAT:** Use simple repetitive language during everyday activities
   - **QUESTION:** Using questions that invite conversation or encouraging reasoning skills rather than yes/no answers.
   - **ADAPT:** Adapt your language to the level of the child

2. **Share joint attention**
   - Get face to face - adjust to the child's level where you can easily make eye contact
   - Talk about what children are attending to

3. **Be responsive to what children do and say:**
   - **TAKE TURNS:** Avoid adult dominated interactions by balancing adult and child turns at talking
   - **PAUSE:** Pause to give the child an opportunity to talk or vocalise or respond to a question (the 10 second rule)
   - **EXPAND** children's language.
   - **RECAST** children’s errors without interrupting the flow of speech.
The next few slides are clips of Language 0-5 children. These are not on the handout for confidentiality reasons.
Language level

- Speech or language impairment
- Disadvantage:
  - Lower levels of language
  - Some activities unfamiliar (e.g. book reading)
- English as a 2nd language

Know your child!
Providing after-care

I'm on that diet where you cut out all carbs, all sugar...

...& all happiness.
Children who continued in the intervention longer (from infancy to age 8) had better outcomes at age 12 than those who only continued in the intervention to age 5.

“Results generally supported an intensity hypothesis in that scores on cognitive and academic achievement increased as duration of treatment increased.”
Be sustainable

• Choose interventions that are:
  – Simple to implement
  – Help the trainee understand “why” they are doing a particular behaviour
  – Fit into the trainee’s lifestyle or childcare setting easily
Practitioner training manuals...

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<thead>
<tr>
<th>Resource</th>
<th>Description</th>
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<tbody>
<tr>
<td>EYFS guidance</td>
<td>DfE and FoundationOrg</td>
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<tr>
<td>ECAT</td>
<td>DfE (last government)</td>
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<tr>
<td>Birth to Seven Matters</td>
<td>SSTEW Scales</td>
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<td>SALT team Sefton</td>
<td>Communication Supporting Setting checklist</td>
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<td>Key Strategies to promote communication</td>
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<td>ELKLAN</td>
<td>ELKLAN adult-child interaction observation tool</td>
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<td>BCRP</td>
<td>Classroom Observation Tool</td>
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<td>TCT/ICAN</td>
<td>Top tips for developing talk</td>
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<td>Small Talk</td>
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<td>TCT/ICAN</td>
<td>Celebrating Communication Toolkit</td>
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<td></td>
<td>Listen up</td>
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<tr>
<td>National Children's Bureau</td>
<td>Making it REAL (using ORIM framework)</td>
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</tbody>
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Pause expectantly and frequently during interactions with children to encourage their turntaking and active participation.
Be sustainable

• Choose interventions that are:
  – Simple to implement
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  – Fit into the trainee’s lifestyle or childcare setting easily
What happens when interventions don’t fit into the parents’ lifestyle

• The Reading Together project:
  – Cohort 1 – all disadvantaged families (low income, low education levels, living in area of deprivation)

DATA FROM AN STUDY WILL BE HERE ON THE TALK SLIDES. IT IS NOT PROVIDED ON THE HANDOUT AS THE STUDY IS ONGOING.
Summary

• Summary of the basic facts from Michelle’s talk:
  – Bear these in mind when designing programmes to boost language and communication

• Tips on how to translate this research into effective practice:
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Resources

- Our LuCiD website [www.lucid.ac.uk](http://www.lucid.ac.uk) has...
  - Description of our research
  - Useful resources for practitioners and parents
  - Sign up for our quarterly newsletter

- On your reading list:
  - Our 6 Nursery World articles that describe how children achieve the many different tasks involved in learning to communicate, together with tips about how to help them succeed
  - See them also at [http://www.lucid.ac.uk/resources/for-practitioners/nursery-world-magazine/](http://www.lucid.ac.uk/resources/for-practitioners/nursery-world-magazine/)

- Useful resources that check out the evidence-base for you:
  - In the UK:
    - Early Intervention Foundation:
      - [http://www.eif.org.uk/](http://www.eif.org.uk/)
    - Cochrane reviews:
      - [http://www.cochrane.org/](http://www.cochrane.org/)
    - The Communication Trust’s What Works database:
      - [http://www.thecommunicationtrust.org.uk/whatworks](http://www.thecommunicationtrust.org.uk/whatworks)
  - Don’t forget work in other English-speaking countries. The USA, for example, has a lot of work:
    - What Works Clearing House:
    - The Rand Corporation’s review of US early intervention programs:
  - Ben Goldacre’s Fish Oil blog: [http://www.badscience.net/2006/09/the-trial-that-ate-itself/](http://www.badscience.net/2006/09/the-trial-that-ate-itself/)
Thank you