

Introducing See and Learn Speech

down syndrome education international
discovering potential • transforming lives

Introducing See and Learn Speech

Professor Sue Buckley OBE
Director of Research
Down Syndrome Education International

Copyright © Down Syndrome Education International 1

Overview

- What is See and Learn?
- some common design features and developmental benefits
- how See and Learn programs fit together
- What is See and Learn Speech?
- Why is it needed?
- How have we designed it?
- How do you use it?

Copyright © Down Syndrome Education International 2


What is See and Learn?

See and Learn provides practical, targeted and evidence-based approaches to promote the development of language, reading, speech, memory and number skills for children with Down syndrome and similar learning difficulties




Copyright © Down Syndrome Education International 3

Introducing See and Learn Speech

See and Learn – program design features 


- An evidence based developmental approach (draws on the latest research on how children learn and develop)
- Adapted for the learning profile of children with Down syndrome (draws on the research on how children with Down syndrome learn and develop)
- Small steps, structure, repetition and practice
- Builds on visual learning strengths – clear pictures, print
- Supports verbal learning weaknesses – simple language
- Encourages listening, attention and concentration
- Adapts to individual child's needs and progress

Copyright © Down Syndrome Education International 4

See and Learn – program design features 

- Teaches 'pivotal' behaviours which children use to learn – following directions, responding to questions, imitating, taking turns, initiating, playing with a partner
- In ways that support success, encourage problem solving, persistence and feelings of competence
- Provides graded teaching activities, in printed kit or app format, with easy to follow instructions and record sheets to chart progress
- Include suggestions for consolidating and extending learning during play and everyday activities at home or at preschool

Copyright © Down Syndrome Education International 5

See and Learn programs 

- **See and Learn Speech** – to improve speech skills and improve speech clarity
- **See and Learn Language and Reading** – to develop language by teaching vocabulary and sentences (grammar) to improve children's ability to talk and join in conversations, to develop early reading skills
- **See and Learn Number** – to teach the basics of counting
- **See and Learn Memory** – to improve memory
- **Will be used alongside each other** – for short periods daily

Copyright © Down Syndrome Education International 6

Introducing See and Learn Speech


What is See and Learn Speech? 

A program designed to:

- To improve children's speech perception and speech production
- Using activities to ensure they can hear and discriminate all speech sounds, produce these sounds and combine them into intelligible words and sentences
- For children from babies into school years




Copyright © Down Syndrome Education International 7

Learning to talk – speech and language 


Two different components

- Learning the **language** – the meanings of words (vocabulary) and sentences (grammar)
- Developing **speech** – the ability to say words and sentences clearly


- The **speech** of children and adults with Down syndrome is often difficult to understand (98% with speech difficulties, 58% often not understood, Kumin)



Copyright © Down Syndrome Education International 8


Developing speech skills matters 

- Learning to talk depends on speech skills - the ability to hear and produce the sounds of your language
- To begin to understand words and 'crack the code' you need to be able to hear all speech sounds and discriminate between them - e.g. hat, mat, cat....
- To begin to talk you need to be able to make the speech sounds
- Babble is speech practice – the sounds babies make in babble predict their first words and how fast they learn to say words



Copyright © Down Syndrome Education International 9

Introducing See and Learn Speech


Speech development starts early 

- Children are able to hear and discriminate speech sounds from first weeks – tuning in to their native language
- Speech is a motor skill and is influenced by practice and feedback (Stoel-Gammon 2011)

Children with Down syndrome are affected by:


- High incidence of conductive hearing loss
- Differences in anatomy and physiology
- Verbal short term memory difficulties
- Difficulties learning and producing speech patterns (phonology)
- Delays in motor development

Copyright © Down Syndrome Education International 10

Speech and verbal short term memory 

- Phonological loop in working memory may have developed as a language acquisition device (Baddeley, Gathercole 1998)
- When learning a word, precise sound patterns needs to be held and stored
- Children with Down syndrome are poor at learning detailed phonological forms of words (Jarrod et al 2009)
- Speech sound development influences development of phonological working memory (Keren-Portnoy et al 2010, Krishnan, Alcock 2013)

Copyright © Down Syndrome Education International 11

Is intervention effective? 

- Only a few small studies but all with positive results (Ni Cholmain (1994), Dodd et al. (1994)
- Both worked on sound and word production – input and repetitive practice – and reported progress in developing phonology
- Some evidence that improved ability to produce sounds and word patterns led to an increase in length of utterance – the number of words and word endings child could produce
- Van Bysterveldt (2010) linked teaching of letter sounds and phonological awareness to speech sounds – and all 10 children showed speech sound improvement
- Interventions were delivered by parents in each study

Copyright © Down Syndrome Education International 12

Introducing See and Learn Speech


See and Learn Speech 

Small steps towards clearer speech perception and production:

- **becoming familiar with speech sounds** - storing sounds in the memory system
- **discriminating between speech sounds** - hearing the differences between sounds
- **producing speech sounds** - individual sounds and simple combinations
- **saying words** - saying words that begin with a particular sound
- **saying more complex words and phrases** - saying words that have one, two, three and four syllables and putting words together




Copyright © Down Syndrome Education International 13


Steps in See and Learn Speech 

- Playing With Sounds
- Putting Sounds Together
- Saying Words
- Saying More Words
- Saying Later Words
- Saying Longer Words and Phrases*
- Saying Word Endings*

Note all use early vocabulary examples (* under development)





Copyright © Down Syndrome Education International 14

Now also as apps 


Apps for iPads, Android and Windows devices:

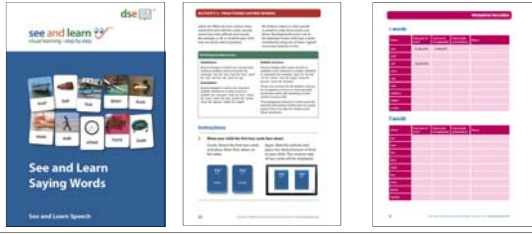
- same steps and activities
- Same pictures
- same guide
- same records
- can be used together (app and printed cards)




Copyright © Down Syndrome Education International 15

Introducing See and Learn Speech


Detailed guides and records – all programs 




Copyright © Down Syndrome Education International 16

See and Learn Playing with Sounds 


- Designed to help children with Down syndrome to become familiar with the component sounds of speech (phonemes)
- Practise listening to speech sounds, identifying the differences between sounds, and producing individual sounds
- Aims to develop foundational speech skills and is suitable for use with children with Down syndrome from 6 months of age



Copyright © Down Syndrome Education International 17

Playing with Sounds - activities 

- **Listening to Single Sounds** - become familiar with the sounds in the language, store these sounds in memory. Begins to teach child to associate each sound with a sound card (picture prompt).
- **Listening to Different Sounds** - to help children hear and notice the differences between sounds (discrimination) and to teach infants to point and choose ready for next activity.
- **Selecting Different Sounds** - tests child's discrimination skills by asking them to identify a spoken sound by choosing the sound card representing the sound.
- **Saying Sounds** - this activity helps them to practise producing speech sounds.



Copyright © Down Syndrome Education International 18

Introducing See and Learn Speech

Record sheet examples

Copyright © Down Syndrome Education International 19

Video clips – listening to and seeing sounds

- The first clip shows a baby with Down syndrome – watch how intensely he concentrates on the face of the speaker and moves his mouth shape
- The second clip shows an older child listening to a speech sound and learning to link it to a picture. We teach a picture cue for each sound as we can then test children's ability to recognise and discriminate sounds before they can produce them. Notice he is also looking at the speaker's face to see how the sound is made.
- (the clips illustrate activities but not latest See and Learn cards)

Copyright © Down Syndrome Education International 20



Introducing See and Learn Speech



See and Learn Putting Sounds Together

- Designed to help children with Down syndrome practise putting consonant and vowel sounds together (for example, **baa moo, key, pea**)
- Builds on the skills taught in Playing with Sounds
- Suitable for use with children who are beginning to produce consonant sounds in imitation and in babble (from 9 to 12 months), and older children who are starting to combine sounds

Copyright © Down Syndrome Education International 23

Putting Sounds Together - activities


- **Combining Consonants and Vowels** - using picture prompts to practise putting two sounds together to say syllables or words
- **Saying Symbolic Sounds** - using picture prompts to encourage putting two sounds together to say meaningful symbolic sounds

Copyright © Down Syndrome Education International 24

Introducing See and Learn Speech


See and Learn Saying Words

- Designed to help children with Down syndrome to say words and improve the accuracy of their word productions
- Includes activities to practise eight sets of one or two syllable words starting with one of eight speech sounds that develop early in typical development
- Builds on the skills taught in *Playing with Sounds* and *Putting Sounds Together*
- Suitable for children with Down syndrome who are able to produce any of the initial consonant sounds **b, d, m, p, y, n, w** or **h**



Copyright © Down Syndrome Education International 25

Saying Words




Copyright © Down Syndrome Education International 26

Saying Words

- **Learning to Say Words** - using picture prompt cards and speechreading cues to encourage first attempts at saying words
- **Practising Saying Words** - using sets of picture prompt cards in games to encourage more complete word production
- **Rehearsing Saying Words** - multiple repetitions of specific words to improve the clarity and consistency of word production

Copyright © Down Syndrome Education International 27

Introducing See and Learn Speech

Video clips: Saying words dse 

- The next two video clips show children being encouraged to practice words that start with sounds that they can say
- The first child shows that he understands and can sign the words, he is now being gently encouraged to say them
- The second child is older and can quite confidently say the words – note it is important to give him time before prompting him

Copyright © Down Syndrome Education International 28






Introducing See and Learn Speech

See and Learn Saying More Words


- Designed to help children with Down syndrome to say words and improve the accuracy of their word productions
- Activities to practise seven sets of one, two or three syllable words with initial sounds that typically develop following those introduced in See and Learn Saying Words
- Builds on the skills taught in the previous three See and Learn Speech steps
- Suitable for children who are able to produce any of the initial consonant sounds **t, c/k, g, v, ch, r** or **f**



Copyright © Down Syndrome Education International 31

See and Learn Saying Later Words

- Designed to help children with Down syndrome to say words and improve the accuracy of their word productions
- Six sets of one or two syllable words beginning with sounds that typically develop following those introduced in See and Learn Saying More Words
- Suitable for children who are able to produce any of the initial consonant sounds **sh, th, s, z, l, or j**



Copyright © Down Syndrome Education International 32

Saying Later Words



Copyright © Down Syndrome Education International 33


Introducing See and Learn Speech

Video clip: Listening and discriminating sounds 

- This video clip shows children working with a speech and language therapist (pathologist) in one of our early intervention group sessions
- These children have been doing speech sound activities for several years and are now learning to listen to the first sounds in words – and to discriminate between the sounds 's' and 'sh'

Copyright © Down Syndrome Education International 34




How do you decide where to start? 

- Babies may benefit from 6 months of age
- Older children need to build the same skills – so an older child already talking and saying recognisable words may be ready to work on Saying Words but you should also check that they can hear and discriminate all individual speech sounds (including the more difficult contrasts)
- You should also check that they can produce all single sounds and put vowels and consonants together


Copyright © Down Syndrome Education International 35

Introducing See and Learn Speech

Working with Speech and Language Therapist 


- If your child has a Speech and Language Therapist then they will be able to support you and guide you in the use of the See and Learn Speech programme.
- However, in many parts of the world, children do not have access to speech and language therapy or expert advice
- Therefore, we have designed all our See and Learn programmes so that a parent, carer, nursery nurse, preschool teacher or assistant, teacher or classroom assistant can use the materials and work effectively to support children's development.

Copyright © Down Syndrome Education International 37

Further information and support 

- **See and Learn web site:** <http://www.seeandlearn.org/>
- The website has more information on the design of See and Learn Speech and references for the evidence base
- You can keep in touch, share progress and ask questions by joining the See and Learn Facebook group at www.facebook.com/groups/seeandlearn


Copyright © Down Syndrome Education International 38

See and Learn Features – all programs 

- **See and Learn Programs are available as a printed kit or as an app.**
- **Both feature:**
- **Step-by-step guidance** - a comprehensive guide, explaining the design of the activities and providing step-by-step instructions
- **Record keeping** - printable record sheets for recording progress
- **Clear colour picture prompt 'cards'** - laminated cards in the print edition, similar 'cards' on screen in the apps
- **In addition, the apps offer:**
- **Simple activity screens** - keeping distractions to a minimum to help children focus on the tasks at hand
- **Pre-recorded voice prompts** - optionally offering repeated playback of spoken words
- **Customisable** - a variety of options to configure voices, random cards sequence, applause at the end of activities and more

Copyright © Down Syndrome Education International 39

Introducing See and Learn Speech

Further information 

Kits:

- UK store: <http://store.dseenterprises.org/collections/see-and-learn>
- US Store: <http://store.dseusa.org/collections/see-and-learn>

Apps:

- iPad (Apple App Store): <http://dsuri.net/dse-ipad-apps-us>
- Android (Google Play): <http://dsuri.net/dse-apps-google>
- Kindle (Amazon): <http://dsuri.net/saying-words-amazon-com>
- Windows (Windows Store): <http://dsuri.net/saying-words-app-windows>

Copyright © Down Syndrome Education International 40
