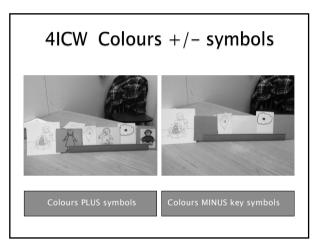
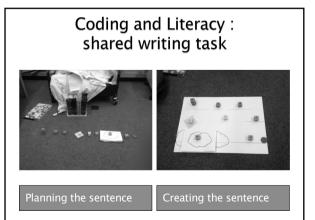
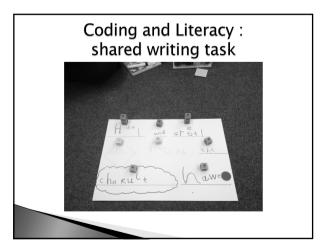


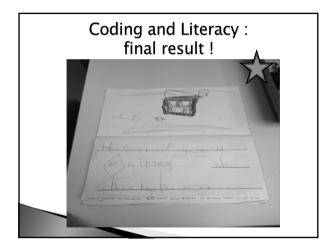
Now -Don't Panic!

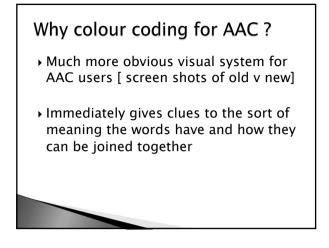
- If it's completely new.....relax and take in as much as you can.
- If you need help at any time -Please ask me!

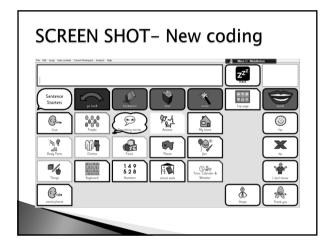


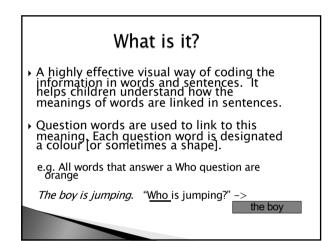












Where does coding come from?

- Originally used to help children understand how the meaning of words are linked in sentences. This then helped them make correct sentences when talking.
- This meaning relationship between words dictates how the ideas are arranged in the sentence.
- The key to this meaning relationship is the verb/action word.
- The 'grammar' of the sentence can then change [e.g. verb tense, pronouns] – but the overall meaning of the sentence does not change

We do NOT code everything !

- Tool not a straightjacket !
- ▶ Be selective
- You are in control of what is coded
- Do not have to try and code what child says!
- Use it to scaffold what you need

We do NOT fully code everyone !

- Not all children need full coding support for all their sentences
- If the system is throughout the school, all children will pick up the basics, then you can choose who you use it with in more detail
- Can just do additional coding for the area that's relevant for that child / lesson eg. Using more cloud words [adjectives]

What happened in Herts?

- Herts had 2 visual systems running
- 1. Colourful Semantics Alison Bryan 1997
- 2. Shape Coding Susan Ebbels [Moor House School] 2001

BUT both systems from same theoretical base

Integrating the 2 systems

- Started to integrate many years ago
- Initially using the non- argument structure shapes [clouds/diamonds] & verb tense arrows with the colour coding system

[N.B. Currently -> Rolling out training for a fully integrated system to be used across whole of Herts & West Essex]

Incorporating grammar shapes

• We have incorporated some shapes into Colourful Semantics to enable grammar to be coded when targeting these specifically

The boy \mathbf{X} dog $\langle \mathbf{is} \rangle$ hiding in the dark forest

<u>Theory !</u>

- Bootstrapping Chiat (2000)
- Functional [verb] argument structure Garrett 1980, Black & Chiat (2003)
- Non-argument structure
 Pinker (1989), Black & Chiat (2003)

<u>Bootstrapping – CHIAT [2000]</u>

Syntactic Bootstrapping

 using argument (grammar) structure to work out a verb's focus

Semantic Bootstrapping

> using knowledge of verb meaning in an event to predict the structures it will or will not take

Phonological Bootstrapping

> using intonation/stress patterns to locate verbs/nouns

Argument structure

- All verbs have an argument structure
- Arguments are 'participants in the event' ['who' does 'what' to 'whom']
- Expressed as thematic roles
- Obligatory [essential] or optional
- Non arguments

Garrett Model - updated 1990

- Created from normal 'slips of the tongue' i.e. on line processing errors
- Described 5 levels of representation
- 1. Message level
- 2. Functional level
- 3. Positional level
- 4. Phonetic level
- 5. Motor level

Functional Level of Representation

- > Main Level addressed by Colourful Semantics
- > Planning of **semantic-syntactic relationships**
 - + semantic content via 3 processes

Processes [& potential problems]

- Lexical selection
- Creation of verb argument structure
- Assignment of the lexical items

"Who-does-what-to whom"

E.G. "Ben put the apple in the bowl" . Lexical items verb = put nouns = apple, bowl . Argument structure for 'put' Verb: WHO, WHAT, WHERE . Assignment verb: WHO, WHAT, WHERE [put]: [Ben] [apple] [bowl]

Errors

Lexical selection error *"I cut dinner my f<u>ork"</u>*

Argument Structure error "Mum put table"

Assignment error *"Mouse chase cat"*

The problem with verbs ! [Chiat 200]

- Rarely occur in isolation
- Less stressed than nouns in word stream
- Poor auditory processing affects identification & storage of verb phonology
- Events focusing on verb are brief/transient
- Poor event perception or joint attention affects identification & storage of verb semantics

Positional level

- Planning frame created
- Word order and grammatical form is planned & selected
- Phonology for lexical items and grammatical forms found and inserted

"Ben put the apple in the bowl" "The apple was put there by Ben" "He is going to put it in the bowl"

We also need to select the semantics for 'Non-argument' structures

- Non argument structures are those not directly related to the verb/verb semantics
- Still adds to semantic content of the sentence
- e.g. adjectives/complements , adverbs of time & manner

"The boy is <u>tall"</u> "<u>Last week</u> I went on holiday"

Colourful Semantics

- Addresses problems in understanding and creating verb argument structure + assignment
- Supports / develops use of 'syntactic bootstrapping' to get to meaning
- Supports poor 'phonological bootstrapping'
- Includes some 'non-argument' structure support
- Shape coding can add some 'morphology' support [e.g. verb tenses, plurals]

The intervention

AIMS

- To teach recognition of underlying 'thematic roles' via use of question words
- To use this knowledge to understand or create argument structure of verbs
- To assign the right lexical item to each thematic role
- To extend skills to some non arguments
- To use skills as strategy for cuing and self
 - help [spoken & written language]

QUESTION WORDS

ARE THE KEY TO CODING HOW DO WE CODE?

By linking each argument/non argument with > A **colour/shape**

> A spoken & signed **question** word

For simple sentences

> Associating a target sentence structure with the resulting colour/shape sequence.

Colour coding Is it new? Language through reading • Coding grammatical structure v semantic syntactic relationships Gordon is drawing a picture in his book v Gordon is drawing a picture in his book

Basic colour/shape coding :-'Verb +arguments'

Question Word	Colour Coding	Shape Coding	Thematic Role
(What) Doing ?	yellow	What doing?	action/verb
Who ?	orange	Who?? (subject)	actor/theme
What ?	green	(object) Who?	theme
Where ?	blue	Where	Location goal/source
To-W/ho(m)?	pink		recipient/ goal

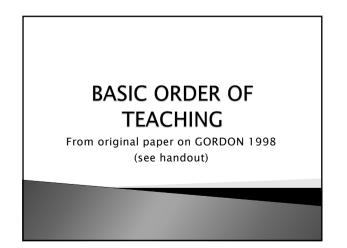
'Non- argument' question words 'What look like' - gives descriptive information [e.g. conceptual language of size & colour] 'What feel like' - gives descriptive information using conceptual language related to texture, solidity etc 'How feel' - gives information about emotions 'When' - gives information about time 'How' - gives information about the manner of an action *"Why"* – gives causal information "*Whose"* – gives information on possessives

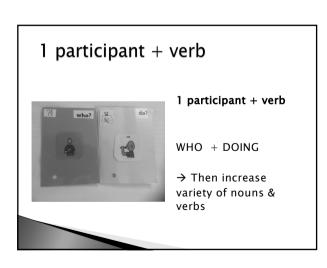
PLUS

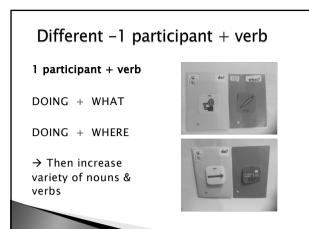
Shape coding also codes grammar words like 'auxillary verbs'

Additional [non argument coding]

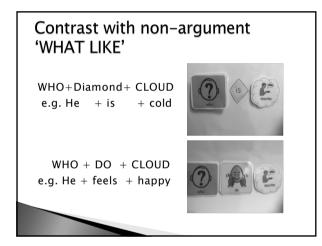
	-	
Other information	Question	<u>Colour/shape</u>
Adjective / concept	What like?	\square
Adverb [time]	When?	Brown
Adverb [manner]	How?	Black
Cause & effect	Why?	Purple arrow
Sentence joining	[Joining up words]	Purple rectangle
Auxiliary Verbs	[Little doing words]	Yellow +
Possessives	Whose?	A.M.A

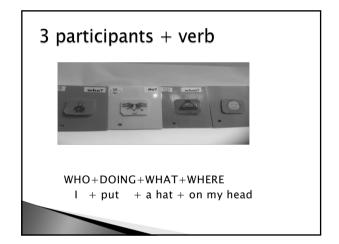






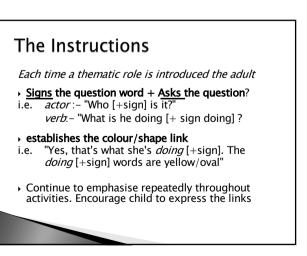
2 participants + verb WHO+DOING+WHAT I + eat + a carrot WHO+DOING+WHERE I + go + to school → Then increase variety of nouns & verbs





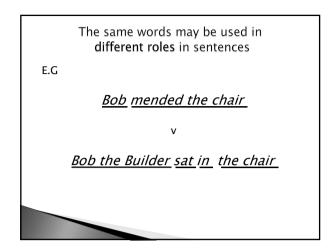
Order of teaching (cont'd)

- But need to be child led &/or curriculum led
- Generally don't teach arguments in isolation from verb !
- But older child can just focus on problematic isolated role/non argument or sentence type
 - e.g. why questions, passives
- Higher level sentence coding will
- include more non-argument structures



Variables

- In KS1 the key words are generally represented with symbols
 e.g Rebus [unless child good at literacy]
- Can progress onto coding just using coloured lines once familiar with system
- If you want to focus on two key words in one argument then use 2 symbols/lines but keep colour the same
 [e.g. If working on prepositions then
 - highlight separately i.e. in the chair]



REMEMBER.....

Question words ARE THE KEY TO CODING

- Find the verb and ask the right question to get the answer you want.
- Then choose the colour/shape that goes with that question

What does it target?

The WHO DOES WHAT TO WHOM of sentences

 By asking questions we can find out the words that go with these and see how the parts of the sentence are linked to give the sentence it's meaning

i.e.

WHO is it? What are they DOING? WHERE are they? WHAT did they do it to? WHO did they do it TO?

EXAMPLE – Ashleigh

- ▶ 9 year old PNI school
- Non verbal
- Cerebral palsy
- Right hemiplegia
- Singe word level comprehension
- Expression vocalisations + pointing

AIM

- Increase comprehension
- Enable symbol use to express herself

Plan – WHO, DOING, WHAT & WHERE

Resources = symbols and BPS action pics

- 1. WHO + WHERE
- COMPREHENSION \rightarrow moving toys to symbol line
- 2. DOING +WHAT moving toys to symbol line
- COMPREHENSION → moving toys to symbol line
 EXPRESSION → select symbols for line for adult actions

Plan – WHO, DOING, WHAT & WHERE

- 3. Mixed 2 word level
- COMP -select 1 /6 pictures to match symbol line
- EXPRESS- chooses 2 symbols to describe picture
- 4. 3 ICW
 - COMPREHENSION \rightarrow selects 1/8 pictures to match symbol line
 - EXPRESSION \rightarrow select symbols for line for action picture

INTRODUCED WHERE

At end of the year

- Increased confidence
- Decreased anxiety
- Increased signing
- Less need to copy others
- Increased vocalisations
- Literacy skills now developing [50 sight words]
- Improvement in all areas of curriculum
- Increased attempts to communicate with staff and parents

Quote

"Having seen little, if any, improvement in Ashleigh's language over the past few years, we have noted significant progress since starting this programme in October"

OUTCOME – Oct \rightarrow July

- Understands 23 verbs [sign, symbol and spoke word]
- Produces 3 symbol sentences to describe picture or action
- Understands a 3 symbol sentence

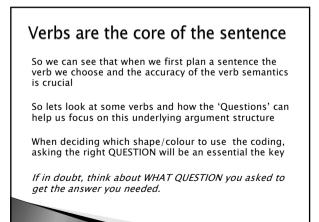
What is the Basic coding?

Each colour is linked with a question word

- ▶ who
- What
- Where
- Doing
- who to

N.B

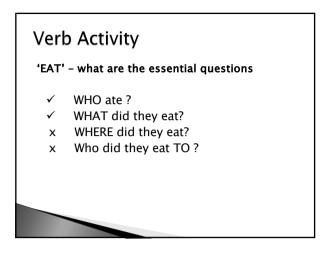
You don't have to be an expert at analysing sentences to find these essential word meanings!



Verb Activity

- So lets look at some verbs
- Which of these questions **have** to be put with the verb for a sentence to make sense?

WHO	[is doing the action]
WHAT	[is the action done to]
WHERE	[is the action happening]
WHO to	[who is the action done to]



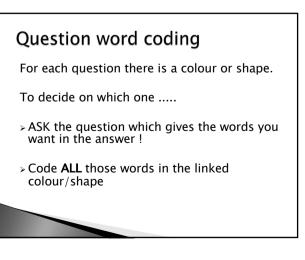
Verb Activity 'SIT' - what are the essential questions WHO sat? WHAT did they sit? WHERE did they sit? Who did they sit TO ?

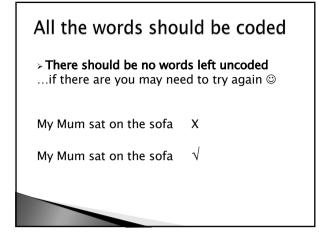
Verb Activity

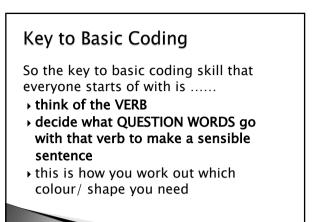
'GIVE' - what are the essential questions

- ✓ WHO gave?
- ✓ WHAT did they give?
- x WHERE did they give?
- ✓ Who did they give TO ?

Verb ActivityGet into 2's & 3's and try to decide what are
theESSENTIAL questions for each verbi.e. What MUST be included to use this verb
in a sentencesatpourputfiltershowing
inventedtravelled







Use the VERB to help you

Quick Hint!!

Think about the verb and the questions you ask **before** deciding what colour it is....

NB WHO - you would ask this for people and characters [*so in a story 'The Gruffulo and the Mouse' would be WHO* → orange]

WHAT - you might ask this for things/objects, but also for animals <u>not</u> personified [not a Character] So "Camels live in Egypt" - you'd probably ask WHAT lives in Egypt \rightarrow green?

Basic <u>colour</u> coding – essential question words

Question Word	Colour Coding	Example
(What) Doing ?	yellow	Ben <u>is giving</u> a biscuit to the dog
Who ?	orange	<u>Ben</u> is giving a biscuit to the dog
What ?	green	Ben is giving <u>a biscuit.</u> to the dog
Where?	blue	Ben is putting a biscuit in the bowl
To Who(m)?	pink	Ben is giving a biscuit to the dog

Practising the meaning mantra !!!
Orange words tell us WHO
Yellow words tell us what they are DOING
Green words tell us WHAT

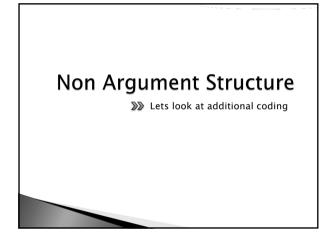
- Blue words tell us WHERE
- Pink words tell us who TO

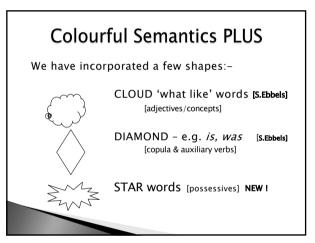
- But we know there is other information in sentences [non arguments]
- Other sorts of word meanings that are not essentially linked to the verb
- These can still be coded and are also linked to question words

Other information	Question	<u>Colour/shape</u>
Adjective / concept	What like?	\bigcirc
Adverb [time]	When?	Brown
Adverb [manner]	How?	Black
Cause & effect	Why?	Purple arrow
Sentence joining	[Joining up words]	Purple rectangle
Auxiliary Verbs	[Little doing words]	Yellow +
Possessives	Whose?	3 Mz

Practising the full meaning mantra

- Orange words tell us WHO
- Yellow words tell us what they are DOING
- Green words tell us WHAT
- Blue words tell us WHERE
- Pink words tell us who TO
- Brown words tell us WHEN
- Black words tell us HOW
- Purple words tell us WHY [& join things up]
- Cloud words tell us WHAT is it LIKE
- Star words tell us WHOSE

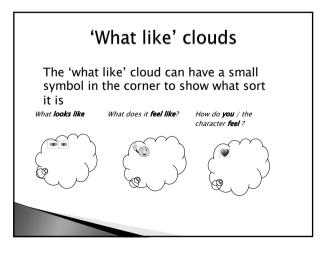


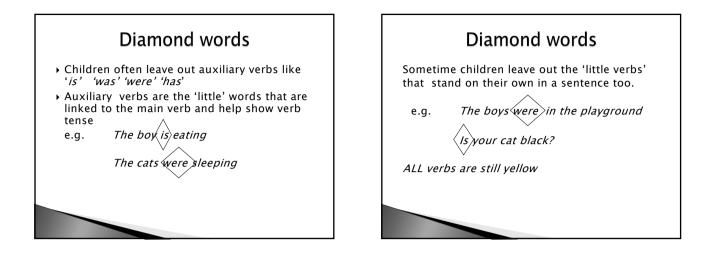


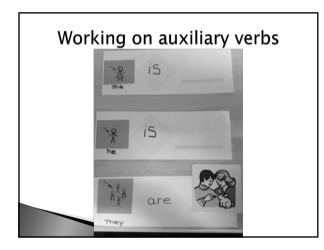
Additional coding - CLOUD words

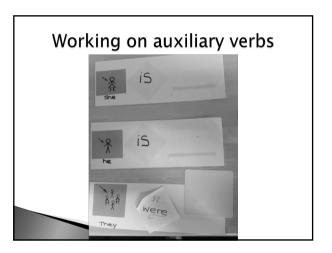
'What like? clouds' - 3 different sorts of questions

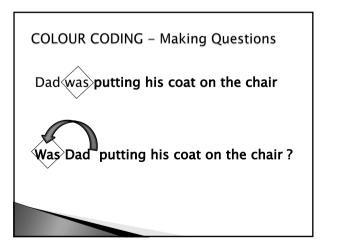
- > What does it look like? [e.g. long, blue]
- > What does it feel like? [e.g. soft, cold]
- > How do you feel?
- [e.g. sad, worried]

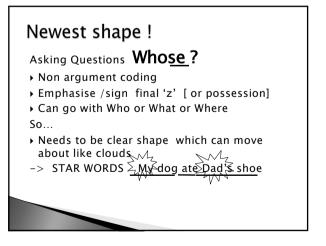


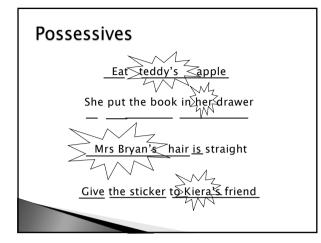


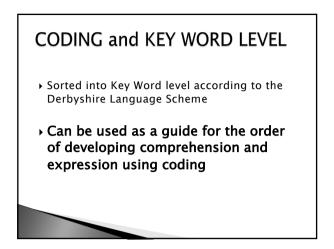








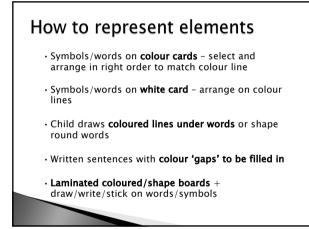


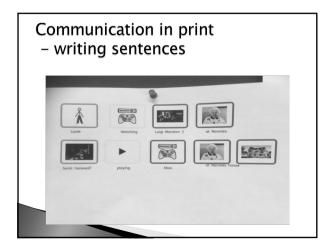


The Equipment

Choose a way to represent roles

- > Nursery/ Key stage 1 = symbols [e.g. Rebus, Makaton].
- > Key stage 2 or literate child = written word





The Activities

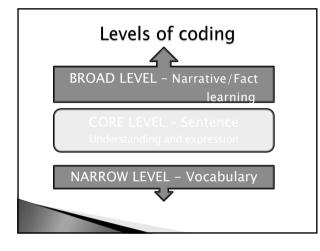
- Describing pictures/real events
- Use alongside simple oral sentence work e.g. Derbyshire language scheme
- Supporting basic vocabulary development [including verb semantics]
- Supporting creative writing
- Planning narratives
- Supporting Big Book
- Text comprehension
- Supporting topic vocabulary

The Children A) Expression

- word order problems e.g. ' news me like '
- omissions of verbs or essential key semantic information from the sentence. Marked WFD
- lack of sentence variety
- tendency to 'word string'
- tendency to start a sentence, then trails off when he gets stuck and tries another one
- Problems reflected in written language
 ALSO children where motor planning problems limiting sentence structure

B) Comprehension

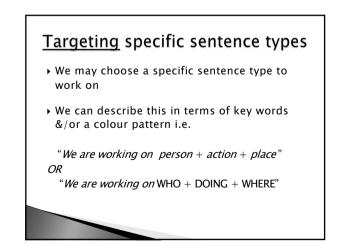
- Applicable to severe comprehension difficulties
- Focus on signs and colours/shapes as major support
- Therapy for difficulties with e.g.
- \Box 'question word' comprehension
- DLS based comprehension work
- \Box Written text comprehension
- □Verb tense, plurals [*shape coding only*]

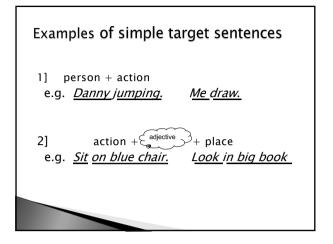


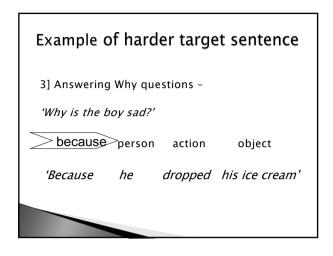
CORE LEVEL SUPPORT

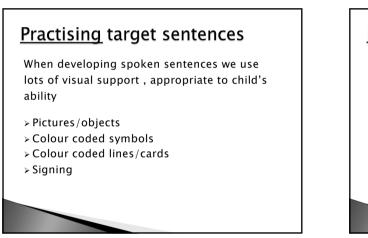
- Developing sentence structure
- Expressing reasons science
- Development of 'interesting' sentences in creative writing [cloud words]
- Supports question comprehension
- Developmental order of understanding question words [WALL CHART]

Developing spoken sentences Coding can be used to develop a child's ability to produce spoken sentences > To increase the range of sentence types > To increase the complexity of sentence structures









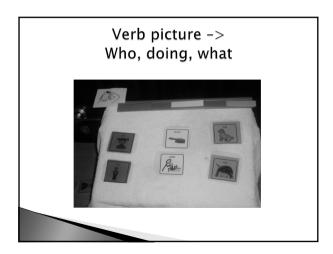


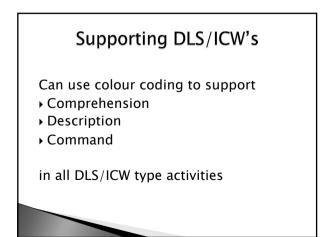
For example
 When getting a child to describe an action
 Create a sequence of coded symbols which make an instruction or describe an action

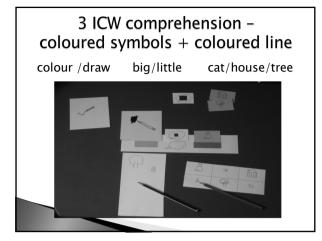
 Child has to then uses the coding and symbols to help them describe what they did

 e.g.
 cut cbig apple

wash teddy's face





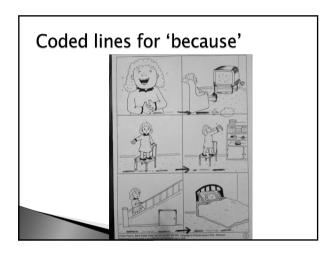


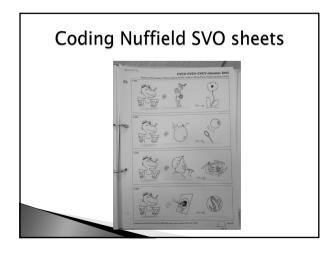
Reducing the coding support Once the child is secure with the full coding reduce the support you are using Use the colour cards or line but move from coloured symbols to white symbols Reduce the number of symbols, just leave the tricky ones there Use colour cards /lines but no symbols Gradually take some of the colours away, but encourage the child to touch where they were

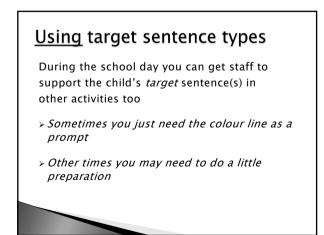
Practising target sentences

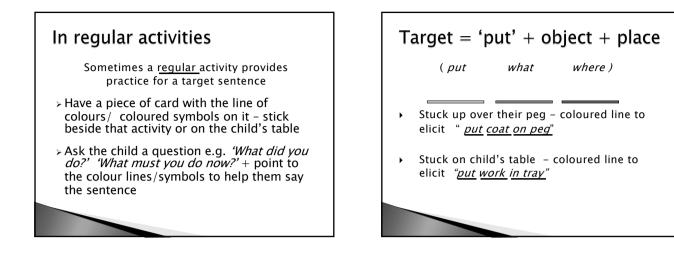
Colour line only

- Sometime we just have a colour line for the sentence as a prompt
- the child uses the colours to help them say the sentence

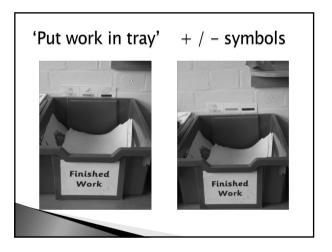






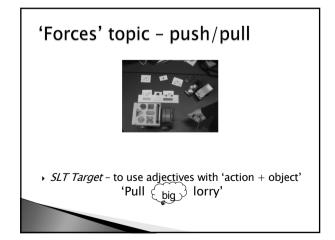


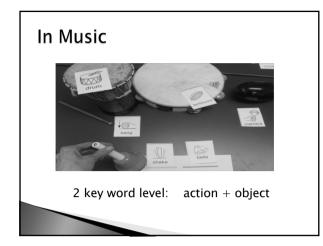


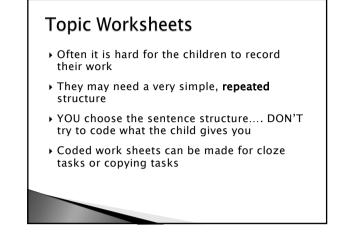


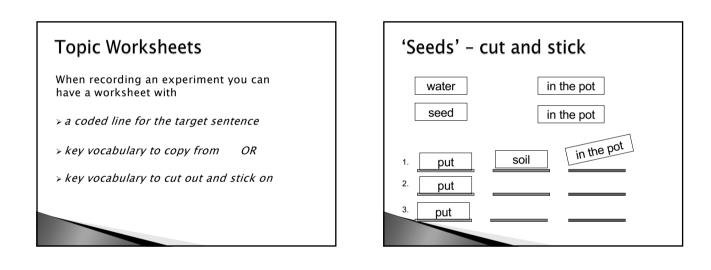
In Topic Work

- Often a target sentence can be supported in topic work activitieswith a little preparation
- Use the colour line + symbols/line drawings to support the required sentence



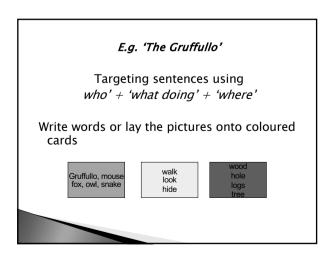


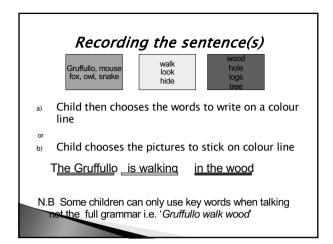


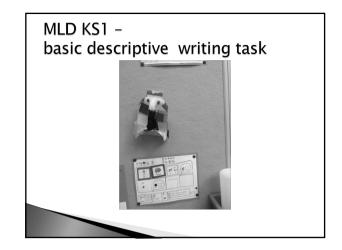


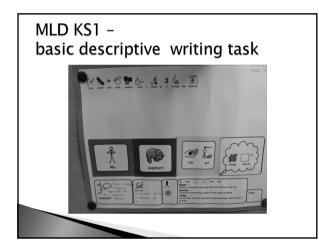
Key Texts [Big Book]

- Can use Key Texts to find vocabulary relating to *current sentence structures being targeted* by therapist or to create simple narratives
- Photocopy characters, locations from the book if the child cannot read key words.
- Use these to create a 'sentence' which can be 'read' out or written

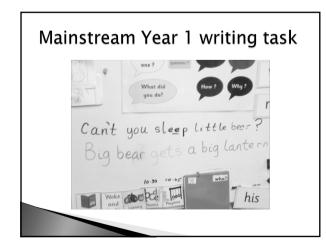


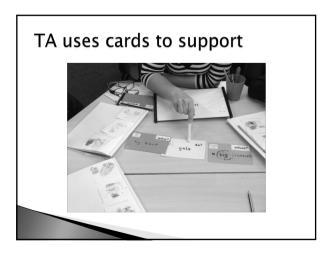


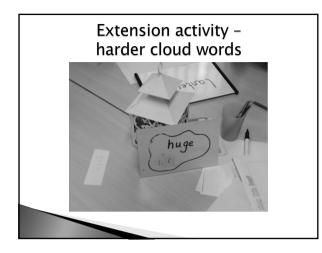


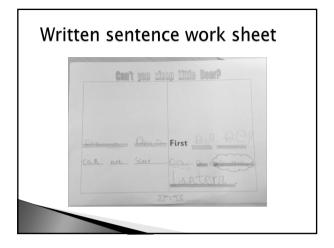


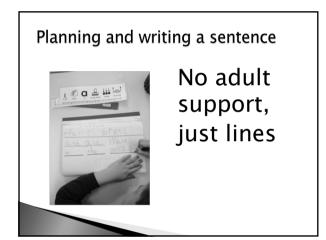


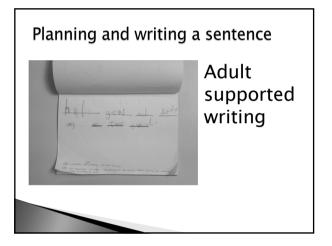






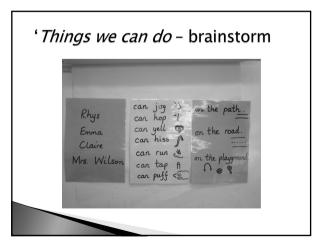


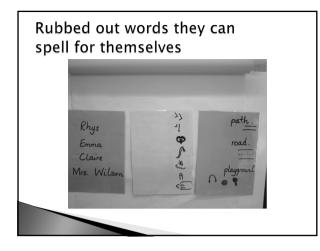


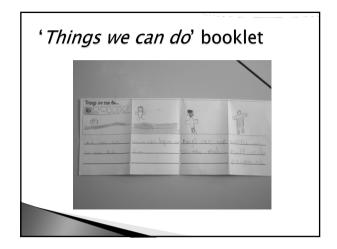


<u>Using the same simple sentence for</u> <u>descriptive writing</u>

- Brainstorm vocabulary for each colour
- Children practices creating several sentences out loud with same structure, changing the vocabulary
- Rub out the words the children can spell themselves
- Children write sentences and draw pictures



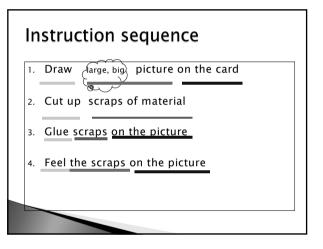




Supporting descriptive writing

Remember

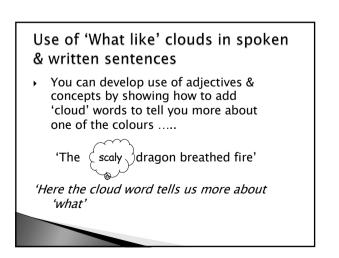
- Coding works best with a simple, repeated structure
- YOU choose the sentence structure.... DON'T try to code what the child gives you

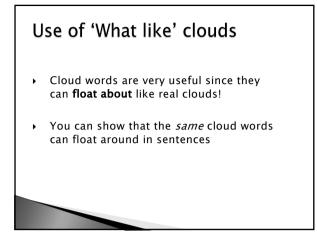


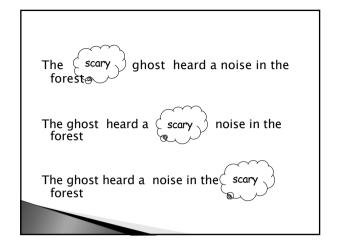
Three Little Pigs

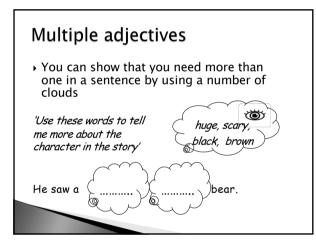
[from - Integrated therapy services]

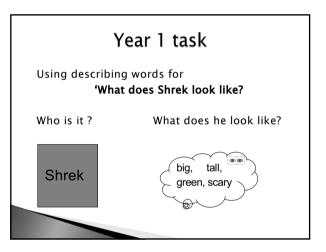
- Pig 1 built a house of straw
- Pig 2 built a house of wood
- Pig 3 built a house of bricks
- The bad wolf blew the house of straw down
- The bad wolf blew the house of wood down
- The bad wolf climbed the house of bricks
- > The bad wolf fell down the chimney
- > The bad wolf fell in the pot of boiling water

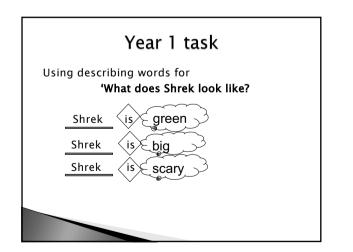


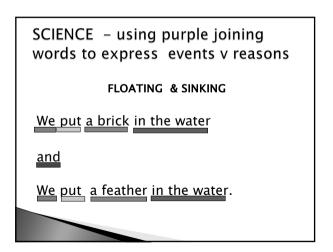


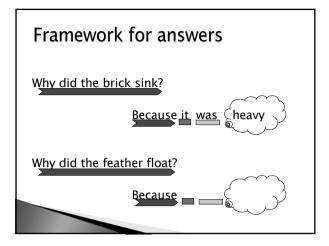


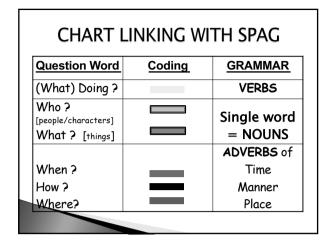


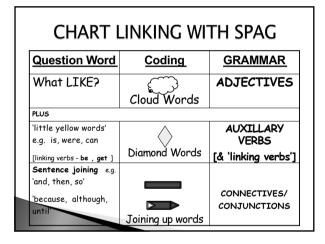


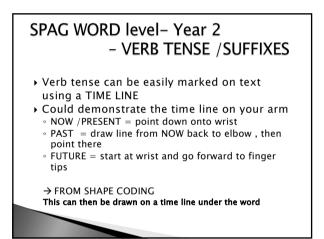


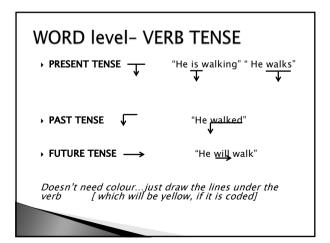


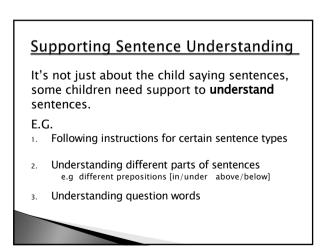


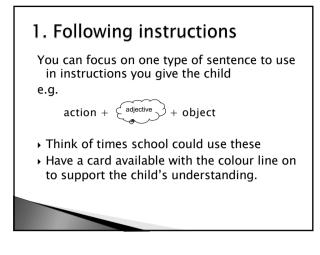


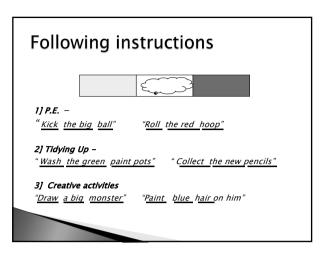






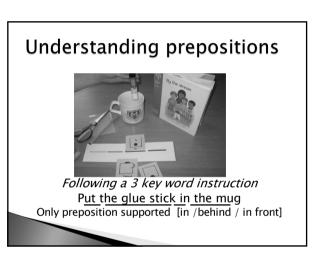






2. Understanding parts of sentences

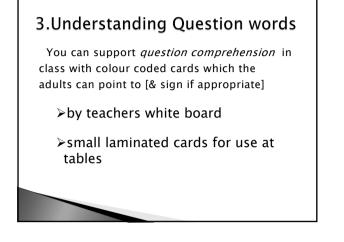
- You can focus on developing the understanding of just one part of a sentence
- Use a coloured line and just have symbol/written support for that part
- e.g. prepositions , time words



Understanding time words • Time words are often hard to understand *e.g. 'today, yesterday, last week, next week'* • Time words answer the question 'when' • '*When*' words are **brown** • Explain that **brown** words change the **yellow** doing word

 You MUST have a familiar context and consistent language to teach 'time' words

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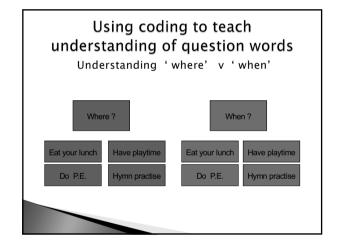
Understanding Question Words

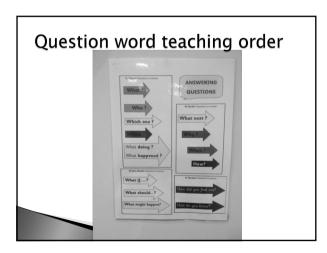


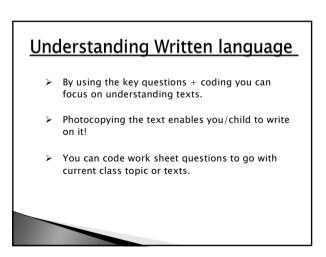
Teaching Question words

You can teach understanding of question words

- by linking the word with the colour and sign + a symbol cue about the question meaning [e.g. who = person symbol where = place symbol]
- thinking of simple questions that contrast 2 of the questions
- getting the child to decide what colour question it is BEFORE answering it

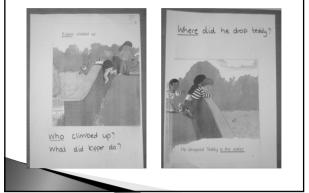


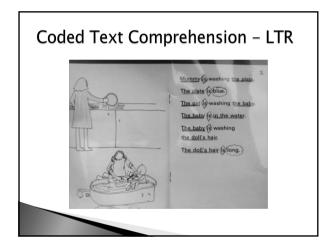


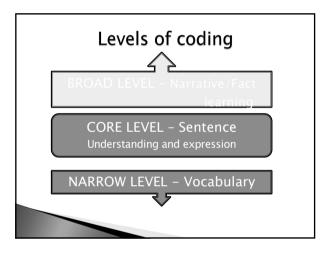


Supporting reading comprehension Adult asks the question and indicates what colour question it is e.g. 'What did Floppy do?' + point to 'yellow' card . If questions are written down - underline the '..do'? in yellow Child looks for words in the text that answer that question & child underlines those words in the right colour Child then answers questions verbally &/or writes answer down

Coded Text Comprehension

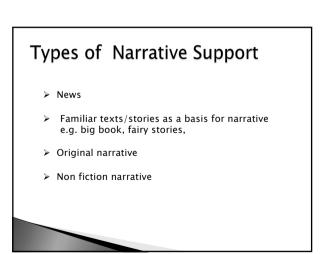




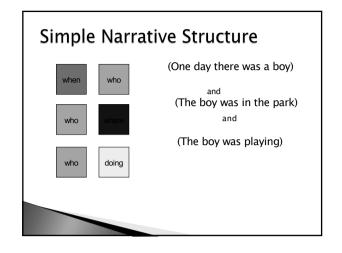


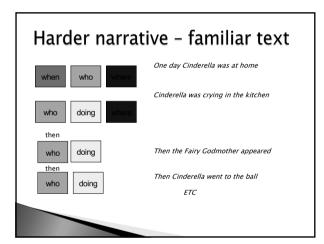
Narrative Coding

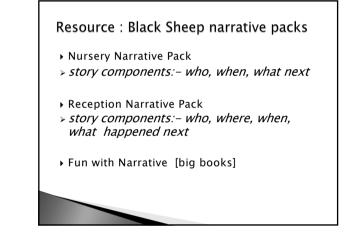
- Question words form a structured framework to create a narrative
- Coding supports the understanding of question prompts
- Coding supports finding the elements the narrative e.g. who, when, where
- Drop coded structure when child is ready

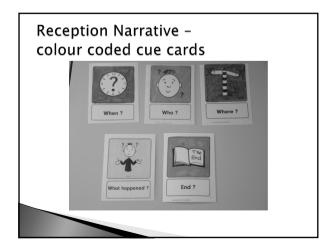


Some children with very limited language benefit from a set visual structure they always use for narrative work In my KS1 Base we use the Black Sheep story planner. Coding can be used to support ANY narrative framework

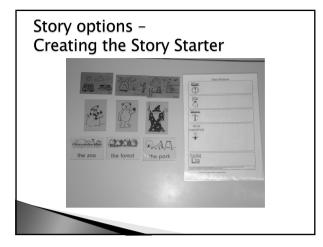


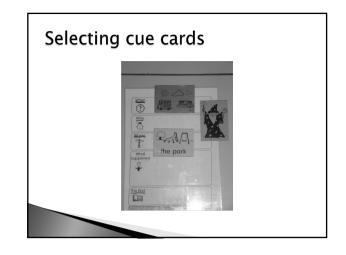


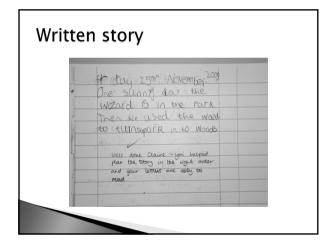


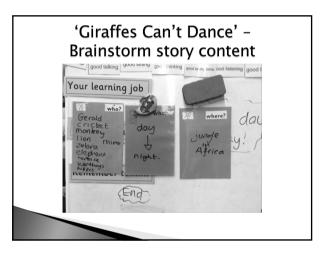




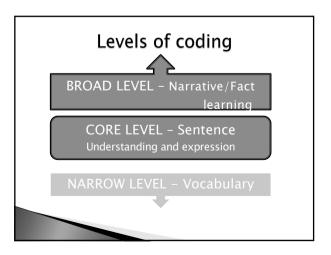












Vocabulary Coding

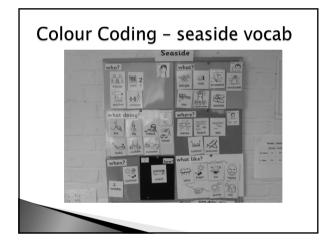
- Coding can be used to teach and practice key topic vocabulary through colour coding the vocabulary in

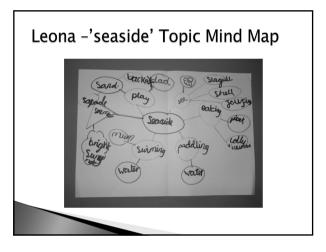
 vocabulary books
 - Wall displays
 - Generating semantic webs/ mind maps

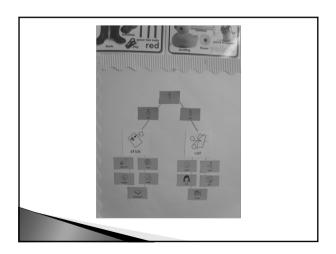
Coding Vocabulary

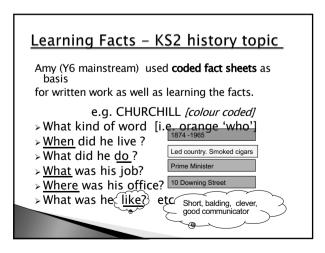
So HOW do you decide which colour/shape to code your vocabulary with?

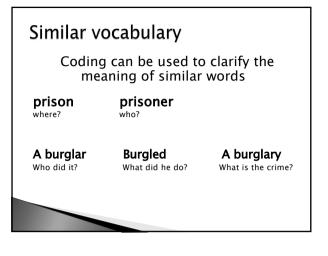
- > Use the QUESTION WORDS
- > Ask the questions in relation to the vocab and see which one it answers best
- [Sometimes 2 questions may fit. Use the one that is closest to the meaning you want.]













Sentence Coding -References

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- 2. 3.
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- 7. 8.
- Bishop D.V.M. (1997). Uncommon Understanding: Development & Disorders of Comprehension in Children. London: Psychology Press
 Black M & Chlat S (2003). Linguistics for Clinicians London:Arnold
 Bolderson S et al (2013). Child Language, Teaching & Therapy. Colourful semantics: A clinical investigation
 Bryan A. (1998). Colourful Semantics 2. In Proceedings of 1998 NAPLIC conference "Language Impairment: theory and practise".
 Bryan A. (1997). Colourful Semantics. In Child S., LawJ & Marshall J. (Eds) Language disorders in children & adults: psycholinguistic approaches to therapy. London: Whur
 Chlat S (2000). Understanding Children with Language Problems. London: Cambridge Univ. Press [Parts II & II]
 Ebbels S (2007). Child Language, Teaching & Therapy Teaching grammar to school aged children with SU
 Jones, E.V. (1986). Building the foundations for sentence production in a non-fluent aphasic. British Journal of Disorders of Communication 21, 1963-82
 Carrett M (1988) Processes in language production. In F J Newmeyer (ed) Linguistics: The Cambridge Survey, Vol 3. Cambridge University Press.
 Pinker S. (1989). Learnability & Cognition: the acquisition of argument structure. MIT Press. 9. 10