

An introduction to Colourful Semantics

DEvised BY
ALISON BRYAN
[with shapes by Susan Ebbels]

Colourful Semantics

A system to support spoken and written language learning across the curriculum, which can be used for –

- sentence development
- understanding questions
- understanding written text
- developing vocabulary & learning facts
- developing narrative

For Speech Pathologists, Teachers and other education professionals

It all started with Gordon

- ▶ Gordon started at Speech and Language base attached to mainstream school in Autumn 1991 [age 5]
- ▶ Started as SLT at base in Jan 1992
- ▶ Gordon and Eirian Jones' stroke patient BB (1986)!

BB – Eirian Jones 1986

- ▶ Stroke patient
- ▶ Preoccupied with grammar structure [the, ing etc]
- ▶ ? Related to previous traditional SLT programme
- ▶ Hypothesis → difficulty at 'Functional Level' of the Garrett model
- ▶ New therapy developed with semantic focus

Gordon 1992

- ▶ OK at social phrases
- ▶ Best sentences in simple picture description
- ▶ Action Picture Test overly focused on using 'the' 'is' 'ing' and struggled to find the other words
- ▶ Previous programme SVO picture description + the /is/ ing

Verb problems

- ▶ Over reliance on 'have'

'sausages have breakfast'

Silly picture of someone pouring sausages out of a cereal box

'The dog is have....dog.....have dog's biscuits...and then have eat them'

A boy pouring biscuits into the dog's bowl & the dog eats them

'Man have carrot on hand'

Man holding a carrot

Verb problems

- ▶ Omitted

'Lady upside-down pencil'

Lady writing with pencil wrong way round

'Kettle ...um...tee-shirt'

Lady ironing with a kettle

- ▶ Non words

'kow baby up the post office'

Woman lifting a child up so he can post a letter in the letter box

Word finding and word order

WORD ORDER

- ▶ Open window Mummy

WORD FINDING [verbs and nouns]

- ▶ **'Riding** up the ladder' for 'climbing'
- ▶ **'Girl jumper** over the gate'
- ▶ ' Hanger in the

Without pictures !

- ▶ ++ word order and word finding problems

'News me like'

- ▶ Single words rather than sentences

'tissue'

Where did you put your book? →

'Um...um...um.. book bag

- ▶ Sometimes unable to even start a sentence → anxious silence at 'News time'

'.....Burger King'

Bus Story [Renfrew]

Age = 5:08

- ▶ **Information content = 7**

→ below mean for 3 years

- ▶ **Average of 5 longest sentences = 3.5 words**

→ below mean for 3 years

Gordon and BB

- ▶ Similar profiles
- ▶ So...try similar therapy !
- ▶ Focus on sentence semantics not grammar

→ **COLOURFUL SEMANTICS**

Bus Story - pre & post testing

	Pre programme Age 5:08	6 months later Age 6:03
Information content	Score = 7 Age Equivalent = Below mean for 3 years	Score = 22 Age Equivalent = 4:00 years
Average of 5 longest sentences	Score = 3.5 Age Equivalent = Below mean for 3 years	Score = 6 Age Equivalent = Below mean for 3 years

Action Picture Test – Information Score pre & post testing

	Pre programme Age 5:10	5 months later Age 6:03
	Score= 20	Score = 31
Information Score	Age Equivalent = 4:06	Age Equivalent = 5:06–5:11 years

Pre	Post
'Kow' baby up the post office	She..um...lifting the baby up....put the letter in...in the post office

But what about spontaneous language ?

→NEWS TIME

'News' after 4–5 weeks

"I played with my friend at his house"

"I watched TV"

'News' after 8 weeks

"I have my Easter Egg home" [Written]

"I see Hook...Hook is a baddie...I see pirate ship...my tooth hurts"

"I stayed at home...watched tele all day long"


'News' after 3 months

"My sister go to my carnival on Sunday...My Nanny coming over on Sunday have dinner in the dining room...Claire holding the bucket...money in it...my Nanny go home on Sunday..at night"

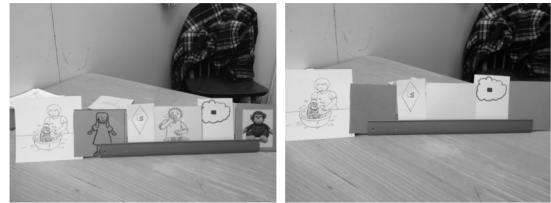
Conference and Publication

- ▶ Conference:--Making New Connections 1996
- ▶ Language Disorders in Children and Adults: Psycholinguistic Approaches to Therapy 1997
- ▶ **Warning** → Colour Changes ...WHY?

Colours updated and coding extended

<u>Question Word</u>	<u>Original Coding</u>	<u>Updated Coding</u>
(What) Doing ?	yellow	yellow
Who ?	orange	orange
What ?	green	green
Where ?	red	blue
Who to ?	pink	pink
What like?	blue	

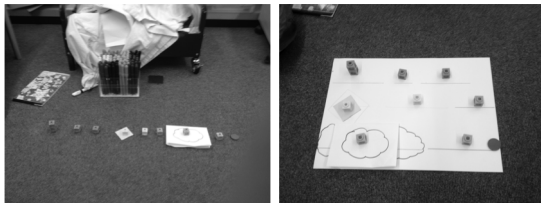
4ICW Colours +/- symbols



Colours PLUS symbols

Colours MINUS key symbols

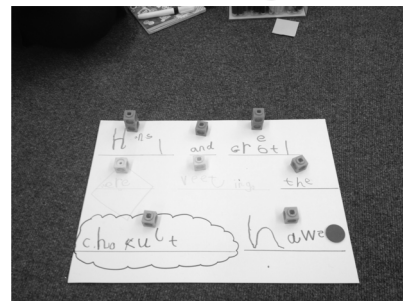
Coding and Literacy :
shared writing task



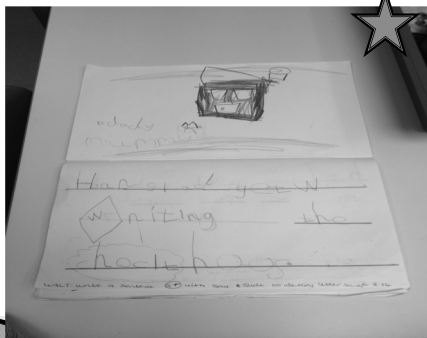
Planning the sentence

Creating the sentence

Coding and Literacy :
shared writing task



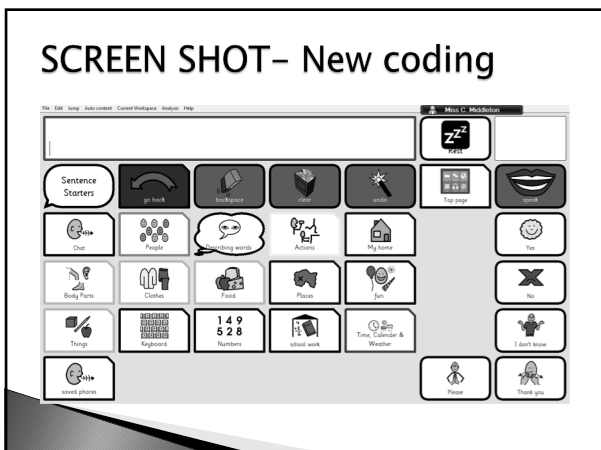
Coding and Literacy :
final result !



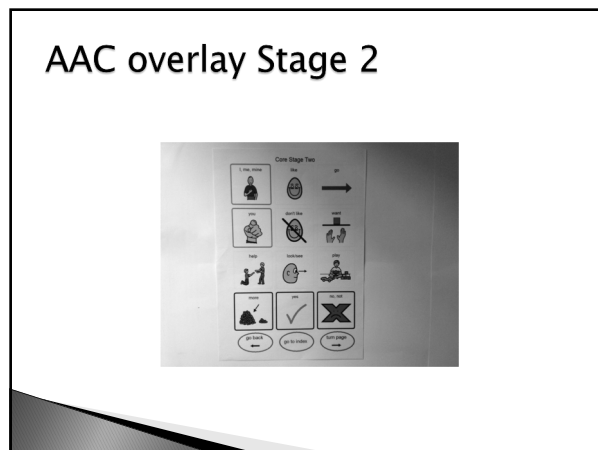
Why colour coding for AAC ?

- ▶ Much more obvious visual system for AAC users [screen shots of old v new]
- ▶ Immediately gives clues to the sort of meaning the words have and how they can be joined together

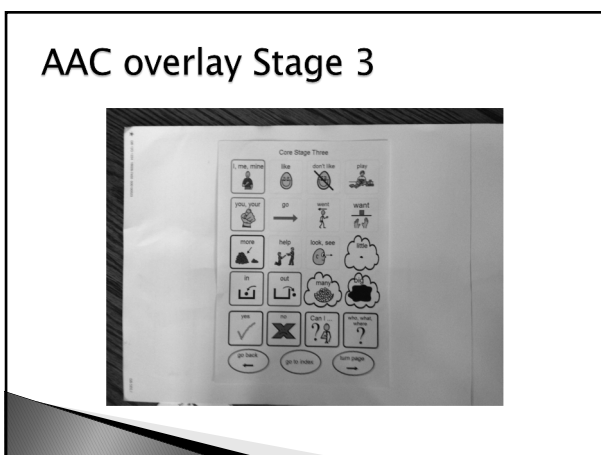
SCREEN SHOT- New coding



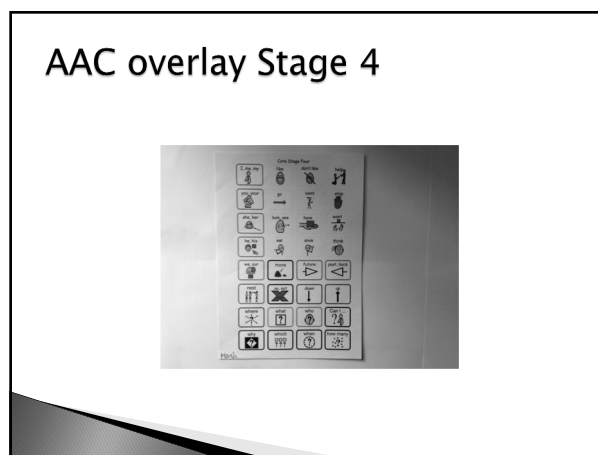
AAC overlay Stage 2



AAC overlay Stage 3



AAC overlay Stage 4



Colourful Semantics –What is it?

- ▶ A highly effective visual way of coding the information in words and sentences.
- ▶ It helps children understand how the meanings of words are linked in sentences.
- ▶ Develops a shared 'vocabulary' to talk about language

What is it?

Question words are used to link to this meaning.

Each question word is designated a colour [or sometimes a shape].

e.g. All words that answer a Who question are orange

The boy is jumping. "Who is jumping?" ->
the boy

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.

Where does coding come from?

- ▶ 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 core meaning content of the sentence does not change

Consider these two sentences

*The children **gave** sweets to the teacher*
*The children **have given** the teacher some sweets*

The grammar has changed but the meaning is the same. WHY?

- ▶ *The WHO, WHAT and WHO TO of the sentence has not changed*

Now consider these two sentences

The children gave sweets to the teacher
The teacher gave sweets to the children

The words and grammar are the same but the meaning is different. WHY?

- ▶ *The people doing the action has changed*
 i.e. the words that mean 'WHO' is doing the action

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 my NHS service?

We 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
- ▶ Now have a fully integrated visual coding system in our service

Incorporating grammar shapes

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

The  boy  dog  is  hiding in the  dark  forest

Theory !

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

Bootstrapping – *CHIAT [2000]*

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

Kids Slips Jeri J Jaeger 2005

- ▶ Looked at children with normally developing language
- ▶ Noted errors which were ‘slips of the tongue’ and not part of developing language skills → *‘Kids SOT’s are similar to adults in most ways’*
- ▶ An interactive version of the Garrett Model is appropriate to use when looking at children’s normal expressive language development

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 fork”
- 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**

The problem with verbs ! [Chiat 200]

- Events focusing on verb are brief/transient
- Poor event perception or joint attention affects **identification & storage of verb semantics**

Positional level

- Planning frame created + intonation
- **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"

Selecting 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 tall"
"Last week I went on holiday"

Scope of Colourful Semantics

- Supports understanding and creating verb argument structure
- Supports assigning the right words the right 'slots'
- Supports / develops use of 'syntactic bootstrapping' to get to meaning
- Supports poor 'phonological bootstrapping'

Scope of Colourful Semantics

Colourful Semantics supports normal language acquisition skills

Scope of Colourful Semantics

- ▶ Includes some 'non-argument' structure support
- ▶ Can add in other visual support systems for 'morphology' support :- verb tenses, plurals
e.g. Shape Coding lines and arrows

Colour coding

- ▶ Is it new?
- ▶ Language through reading
- ▶ Grammatical structure [*surface structure*]
v
Semantic-syntactic relationships
[*deep structure*]

Gordon is drawing a picture in his book

v

Gordon is drawing a picture in his book

QUESTION WORDS ARE THE KEY TO CODING

HOW DO WE CODE?


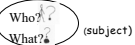
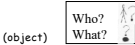

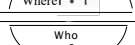
By linking each argument/non argument with

- ▶ A **colour/shape**
- ▶ A spoken & signed **question** word

For simple sentences →

Associating a target sentence structure with the resulting colour sequence.

Colourful Semantics and Shape Coding :- argument structure

Question Word	Colour Coding	Shape Coding
(What) Doing ?	yellow	
Who ?	orange	
What ?	green	
Where ?	blue	
To Who(m) ?	pink	

But what about the rest of the sentence?

- ▶ Non- Argument Structure
- ▶ i.e. NOT related to the semantics of the verb

'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






'Non- argument' question words

- › **'When'** – gives information about time
- › **'How'** – gives information about the manner of an action
- › **'Why'** – gives causal information
- › **'Whose'** – gives information on possessives

PLUS

Way to code surface grammar words
e.g. 'auxiliary verbs like 'is' 'were' ?

Additional [non argument coding]

Other information	Question	Colour/shape
Adjective / concept <small>i.e. description related to noun</small>	What like? <small>Cloud words</small>	
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? <small>Star words</small>	

BASIC ORDER OF TEACHING

From original paper on GORDON 1998
SEE HANDOUT

1 participant + verb



1 participant + verb

WHO + DOING
I + eat

→ Then increase
variety of nouns &
verbs

Different –1 participant + verb

1 participant + verb

DOING + WHAT
Eating + carrot

DOING + WHERE
go + school

→ Then increase
variety of nouns &
verbs



2 participants + verb

WHO+DOING+WHAT
I + eat + a carrot

WHO+DOING+WHERE
I + go + to school

→ Then increase
variety of nouns &
verbs



Contrast with non-argument 'WHAT LIKE'

WHO+Diamond+ CLOUD
e.g. He + is + cold



WHO + DO + CLOUD
e.g. He + feels + happy



3 participants + verb



WHO+DOING+WHAT+WHERE
I + put + a hat + on my head

Order of teaching (cont'd)

- ▶ **But** need to be child led &/or curriculum led
- ▶ Please don't teach arguments in isolation from verb !
- ▶ Higher level sentence coding will include more non-argument structures

"The Mantra" – not just at the start

- ▶ **Sign the question word + Ask the question?**
→ "What is she **doing**?"
- ▶ **Establish the colour/shape link**
"Yes, that's what she's *doing* [+sign].
→ "**Yellow words tell us what she is doing**"
- ▶ Continue to emphasise repeatedly throughout activities. Encourage child to 'complete the 'mantra' [word and sign]
→ "**Yellow words tell us what she is**"

Variables

- ▶ Represent with **symbols &/or words**
- ▶ 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

The same words may be used in different roles in sentences

E.G

Bob mended the chair

v

Bob the Builder sat in the chair

Principle ONE

Question words
ARE THE KEY TO CODING

Principle One :-
"Find the verb and ask the questions"

→ Then choose the colour/shape that goes with that question

Principle TWO

Question words
ARE THE KEY TO CODING

Principle two :-

"ALL the words that answer the question are the same colour"

Why are the questions important?

- ▶ Link to the "WHO DOES WHAT TO WHOM" of sentences
- ▶ Link to the related lexical items [key words]
- ▶ 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
- ▶ Single word level comprehension
- ▶ Expression – vocalisations + pointing

AIM

- ▶ Increase comprehension
- ▶ Enable symbol use to express herself

Plan – WHO, DOING, WHAT & WHERE

- ▶ Resources = symbols, toys, BPS action pics
- ▶ COMPREHENSION → moving toys to symbol line
- ▶ EXPRESSION → select symbols for line for adult actions with toys

1. WHO + DOING

2. DOING +WHAT

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 word level [WHO + DOING + WHAT]
 - COMPREHENSION → selects 1/6 pictures to match symbol line
 - EXPRESSION → select symbols for line for action picture

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 word level [WHO + DOING + WHAT]
 - COMPREHENSION → selects 1/6 pictures to match symbol line
 - EXPRESSION → select symbols for line for action picture
5. Introduced **WHERE** → WHO + DOING + 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 → 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!

Verbs are the core of the sentence

Principle One :- Find the verb, ask the questions

- ▶ 'Questions' can help us get to the 'deep structure' of that verb
[i.e. argument structure/verb semantics]
- ▶ Your questions should give an answer that makes sense e.g. *The girl ate a biscuit*

WHAT did she eat → a biscuit
WHERE did she eat? → a biscuit????

Which verbs fit ?

- ▶ The child _____ the flowers
squashes, puts, falls, throws
- ▶ The cat _____
knocks, grows, sleeps, kills,

Which verbs fit ?

- ▶ Our friends will _____
congratulate, find, amuse, help
- ▶ You should _____ me a ticket
send , put, keep, pay, accept

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

'EAT' - what are the essential questions

- ✓ WHO ate ?
- ✓ WHAT did they eat?
- x WHERE did they eat?
- x Who did they eat TO ?

Verb Activity

'SIT' - what are the essential questions

- ✓ WHO sat?
- x WHAT did they sit?
- ✓ WHERE did they sit?
- x 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 Activity

Get into 2's & 3's and try to decide what are the ESSENTIAL questions for each verb

i.e. What **MUST** be included to use this verb in a sentence

sat	pour	catch
put	filter	showing
invented	travelled	

Question word coding

For each question there is a colour or shape.

To decide on which one

- ASK the question which gives the words you want in the answer ! [Principle One]
- Code **ALL** those words in the linked colour/shape [Principle Two]

All the words should be coded

- For the basic sentence there should be no words in the middle left uncoded ...if there are you may need to try again ☺

My Mum sat on the sofa X

My Mum sat on the sofa ✓

Use the VERB to help you

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

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 **not** personified [not a Character]
So "Camels Live in Egypt" - you'd probably ask WHAT lives in Egypt → green?

Basic colour coding - essential question words

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

Practising the current 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**

Practising the other meaning mantra !!!






- ▶ Orange words tell us **WHO**
- ▶ Yellow words tell us what they are **DOING**
- ▶ Green words tell us **WHAT**
- ▶ Red words tell us **WHERE**
- ▶ Pink words tell us who **TO**

Non Argument Structure

»» Let's look at additional coding

- ▶ Remember there is other information in sentences [non arguments]
- ▶ These are **not** essentially linked to the verb
- ▶ These can still be coded and are also linked to question words

Additional [non argument coding]

Other information	Question	Colour/shape
Adjective / concept <small>i.e. description related to noun</small>	What like? <small>Cloud words</small>	
Adverb [time]	When?	Brown
Adverb [manner]	How?	Black
Cause & effect	Why?	Purple arrow 
Sentence joining	<small>[Joining up words]</small>	Purple rectangle 
Auxiliary Verbs	<small>[Little doing words]</small>	Yellow + 
Possessives	Whose? <small>Star words</small>	

Colourful Semantics – non argument structure

We have incorporated a few shapes:-



CLOUD 'what like' words [S.Ebbels]
[adjectives/concepts]



DIAMOND – e.g. *is, was* [S.Ebbels]
[copula & auxiliary verbs]



STAR words [possessives] [Allison's]

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]

'What like' clouds

The 'what like' cloud can have a small symbol in the corner to show what sort it is

What **looks like**

What does it **feel like**?

How do **you** / the character **feel**?



Diamond words

- ▶ Children often leave out auxiliary verbs like 'is' 'was' 'were' 'has'
- ▶ Auxiliary verbs are the 'little' words that are linked to the main verb and help show verb tense

e.g. *The boy **is** eating*
*The cats **were** sleeping*

Diamond words

Sometime children leave out the 'little verbs' that stand on their own in a sentence too.

e.g. *The boys **were** in the playground*

***Is** your cat black?*

ALL verbs are still yellow

Working on auxiliary verbs



COLOUR CODING - Making Questions

Dad **was** putting his coat on the chair

Was Dad putting his coat on the chair ?

Newest shape !

Asking Questions **Whose ?**

- ▶ Non argument coding
- ▶ Emphasise /sign final 'z' [or possession]
- ▶ Can go with Who or What or Where

So...

- ▶ Needs to be clear shape which can move about like clouds

-> STAR WORDS My dog ate Dad's shoe

Possessives

Eat teddy's apple
 She put the book in her drawer
Mrs Bryan's hair is straight
 Give the sticker to Kiera's friend

Practising the full meaning mantra [current]

- ▶ 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**

Practising the full meaning mantra [other]

- ▶ Orange words tell us **WHO**
- ▶ Yellow words tell us what they are **DOING**
- ▶ Green words tell us **WHAT**
- ▶ Red 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]
- ▶ Blue words tell us **WHAT** is it **LIKE**
- ▶ **Star** words tell us **WHOSE**

CODING and KEY WORD LEVEL

- ▶ Sorted into Key Word level according to the Derbyshire Language Scheme
- ▶ **Can be used as a guide for the order of developing comprehension and expression using coding**

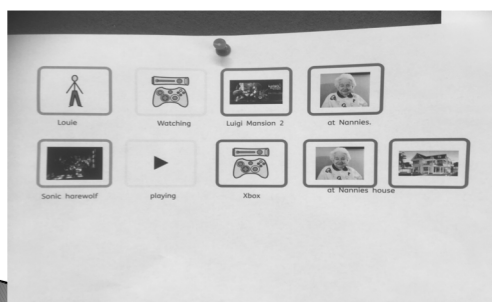
The Equipment

- ▶ **Choose a way to represent roles**
- ▶ Nursery/ Key stage 1 =symbols [e.g. Rebus, Makaton].
- ▶ Key stage 2 or literate child =written word

How to represent elements

- **colour cards** – select and arrange in right order to **match** colour line
- **white card** – arrange on colour lines
- **coloured lines under words** or shape round words
- Written sentences with **colour 'gaps' to be filled in**
- **Laminated coloured/shape boards** + draw/write/stick on words/symbols

Communication in print – writing sentences



The Children

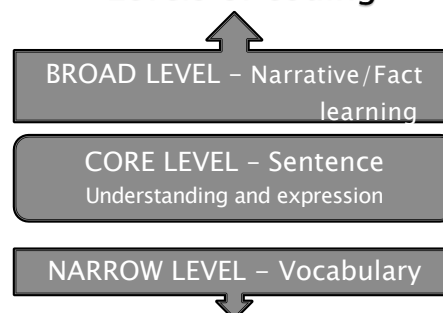
A) Expression

- ▶ 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
- ▶ Just need to be able to 'colour match'
- ▶ Focus on signs and colours/shapes as major support
- ▶ Therapy for difficulties with e.g.
 - 'question word' comprehension
 - Key Word based comprehension work
 - Written text comprehension

Levels of coding



CORE LEVEL SUPPORTING SENTENCE DEVELOPMENT

Spoken and written sentences

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

Targeting specific sentence types

- We may choose a specific sentence type to work on
- We can describe this in terms of key words &/or a colour pattern i.e.

"We are working on person + action + place"

OR

"We are working on WHO + DOING + WHERE"

Examples of simple target sentences

1] person + action

e.g. Danny jumping. Me draw.

Supporting DLS/ICW's

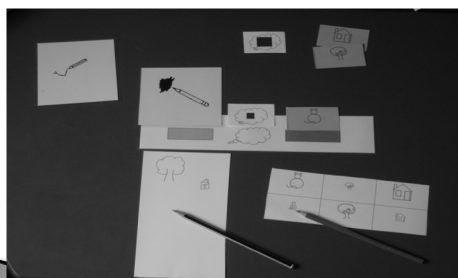
Can use colour coding to support

- Comprehension
- Description
- Command

in all DLS/ICW type activities

3 ICW comprehension - coloured symbols + coloured line

colour /draw big/little cat/house/tree



Reducing the coding support

Once the child is secure with the full coding → reduce the support you are using

1. Use the colour cards or line but move from coloured symbols to white symbols
2. Reduce the number of symbols, just leave the tricky ones there
3. Use colour cards /lines but no symbols
4. Gradually take some of the colours away, but encourage the child to touch where they were

Practising target sentences

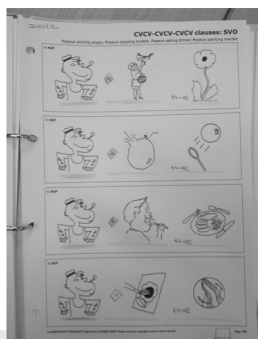
Colour line only

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

Coded lines for 'because'



Coding Nuffield SVO sheets



Using target sentence types

During the school day you can get staff to support the child's *target* sentence(s) in other activities too

- ▶ *Sometimes you just need the colour line as a prompt*
- ▶ *Other times you may need to do a little preparation*

In regular activities

Sometimes a regular activity provides practice for a target sentence

- ▶ Have a piece of card with the line of colours/ coloured symbols on it – stick beside that activity or on the child's table
- ▶ Ask the child a question e.g. 'What did you do?' 'What must you do now?' + point to the colour lines/symbols to help them say the sentence

Target = 'put' + object + place

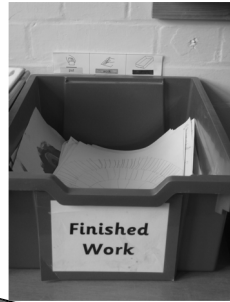
(*put* *what* *where*)

- ▶ Stuck up over their peg – coloured line to elicit "put coat on peg"
- ▶ Stuck on child's table – coloured line to elicit "put work in tray"

'Put coat on peg'



'Put work in tray' + / - symbols



In Topic Work

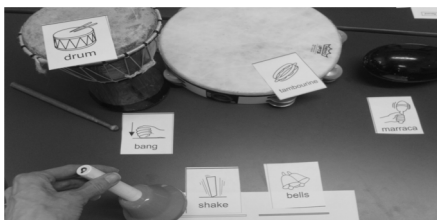
- ▶ Often a target sentence can be supported in topic work activitieswith a little preparation
- ▶ Use the colour line + symbols/line drawings to support the required sentence

'Forces' topic - push/pull



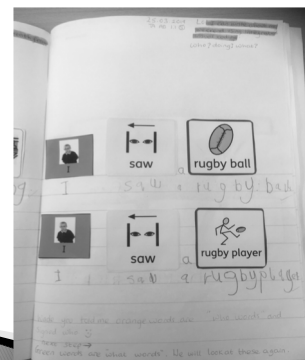
- ▶ SLT Target - to use adjectives with 'action + object'
'Pull **big** lorry'

In Music

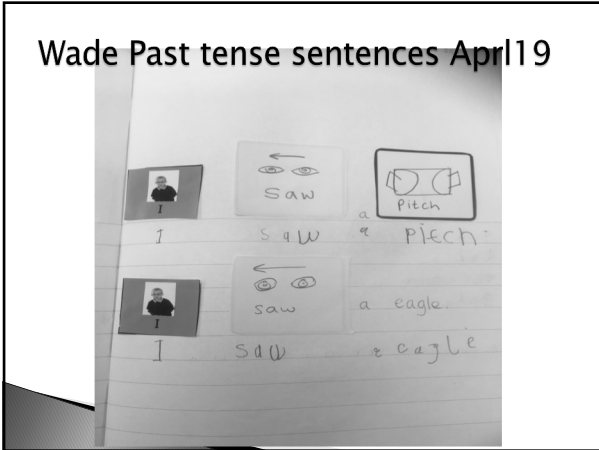


2 key word level: action + object

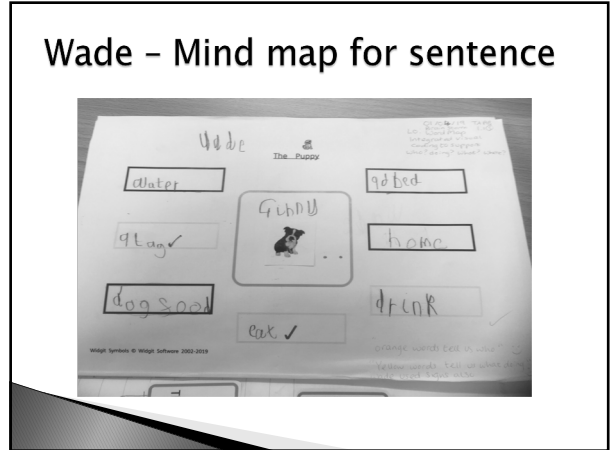
Wade Past tense sentences Mar 19



Wade Past tense sentences April 19



Wade - Mind map for sentence



Topic Worksheets

- ▶ Often it is hard for the children to record their work
- ▶ They may need a very simple, **repeated** structure
- ▶ YOU choose the sentence structure.... DON'T try to code what the child gives you
- ▶ Coded work sheets can be made for cloze tasks or copying tasks

Topic Worksheets

When recording an experiment you can have a worksheet with

- ▶ a coded line for the target sentence
- ▶ key vocabulary to copy from OR
- ▶ key vocabulary to cut out and stick on

'Seeds' - cut and stick

water	in the pot
seed	in the pot

1.

put	soil	in the pot
2.

put		
3.

put		

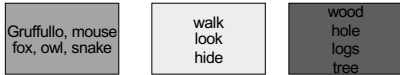
Key Texts [Big Book]

- ▶ 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

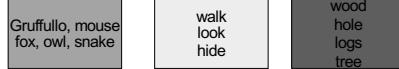
E.g. 'The Gruffallo'

Targeting sentences using
who + *'what doing'* + *'where'*

Write words or lay the pictures onto coloured cards



Recording the sentence(s)



- a) Child then chooses the words to write on a colour line
- or
- b) Child chooses the pictures to stick on colour line

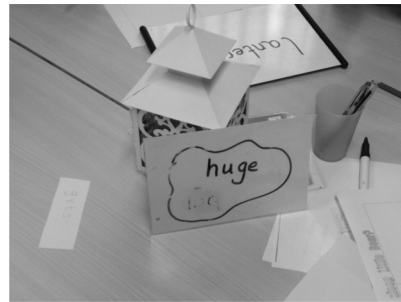
The Gruffullo is walking in the wood

N.B Some children can only use key words when talking not the full grammar i.e. 'Gruffullo walk wood'

TA uses cards to support



Extension activity - harder cloud words

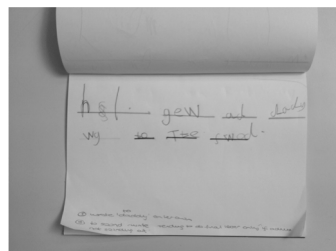


Planning and writing a sentence



No adult support, just lines

Planning and writing a sentence

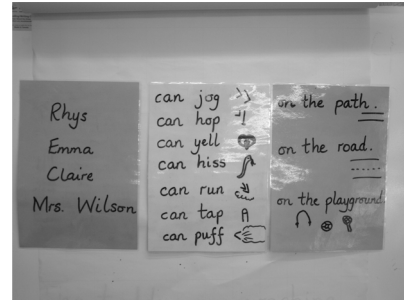


Adult supported writing

Using the same simple sentence for descriptive writing

- ▶ 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

'Things we can do - brainstorm



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

Instruction sequence

1. Draw large, big picture on the card
2. Cut up scraps of material
3. Glue scraps on the picture
4. Feel the scraps on the picture

Build a Snowman ITS



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

Use of 'What like' clouds in spoken & written sentences


- ▶ You can develop use of adjectives & concepts by showing how to add 'cloud' words to tell you more about one of the colours

'The  dragon breathed fire'


'Here the cloud word tells us more about what'

Use of 'What like' clouds

- ▶ Cloud words are very useful since they can **float about** like real clouds!
- ▶ You can show that the *same* cloud words can float around in sentences

The  ghost heard a noise in the forest.

The ghost heard a  noise in the forest

The ghost heard a noise in the  forest

Multiple adjectives

- ▶ You can show that you need more than one in a sentence by using a number of clouds

'Use these words to tell me more about the character in the story'

 huge, scary, black, brown

He saw a   bear.


Year 1 task

Using describing words for
'What does Shrek look like?'

Who is it ?

What does he look like?

 Shrek

 big, tall, green, scary

Year 1 task

Using describing words for
'What does Shrek look like?'

Shrek  is  green

Shrek  is  big

Shrek  is  scary

Three Little Pigs

[from – Integrated therapy services]

- ▶ Pig 1 built a house of straw
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SCIENCE – using purple joining words to express events v reasons

FLOATING & SINKING

We put a brick in the water

and

We put a feather in the water.

Framework for answers

Why did the brick sink?

Because it was heavy

Why did the feather float?

Because _____

Linking with SPAG

»» Brief overview

CHART LINKING WITH SPAG

Question Word	Coding	GRAMMAR
(What) Doing ?	█	VERBS
Who ? [people/characters]	█	Single word = NOUNS
What ? [things]	█	
When ?	█	ADVERBS of Time
How ?	█	Manner
Where?	█	Place

CHART LINKING WITH SPAG

Question Word	Coding	GRAMMAR
What LIKE?	☁ Cloud Words	ADJECTIVES
PLUS		
'little yellow words' e.g. is, were, can [linking verbs - be , get]	◇ Diamond Words	AUXILLARY VERBS [& 'linking verbs']
Sentence joining e.g. 'and, then, so'	▶	CONNECTIVES/ CONJUNCTIONS
'because, although, until'	▶▶ Joining up words	

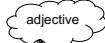
Supporting Sentence Understanding

Don't forget coding can support understanding too

1. Following instructions for certain sentence types
2. Understanding different parts of sentences e.g. prepositions [in/under] 'little blue words'
3. Understanding question words

1. Following instructions

You can focus on one type of sentence to use in instructions you give the child e.g.

action +  + object

- ▶ Think of times school could use these
- ▶ Have a card available with the colour line on to support the child's understanding.

Following instructions



1] P.E. -

"Kick the big ball" "Roll the red hoop"

2] Tidying Up -

"Wash the green paint pots" "Collect the new pencils"

3] Creative activities

"Draw a big monster" "Paint blue hair on him"

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 prepositions



Following a 3 key word instruction

Put the glue stick in the mug

Only preposition supported [in /behind / in front]

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

3. Understanding Question words

You can support *question comprehension* in class with colour coded cards + signs

- by teachers white board
- small laminated cards for use at tables

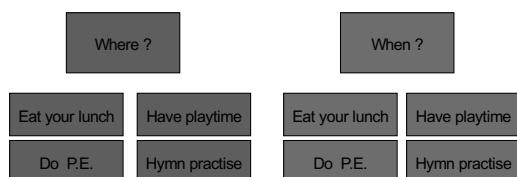
Teaching Question words

You can teach understanding of *question words*

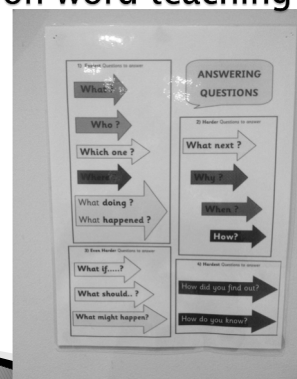
- thinking of simple questions that contrast 2 of the questions
- getting the child to decide what colour question it is BEFORE answering it

Using coding to teach understanding of question words

Understanding 'where' v 'when'



Question word teaching order



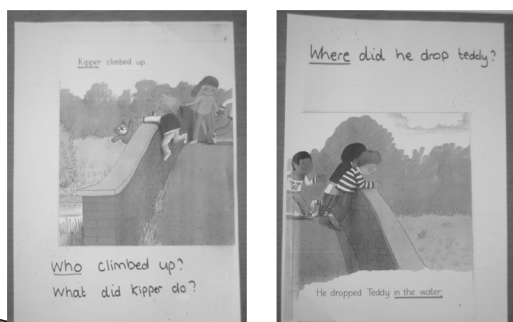
Understanding Written language

- By using the key questions + coding you can focus on understanding texts.
- Photocopying the text enables you/child to write on it!
- You can code work sheet questions to go with current class topic or texts.

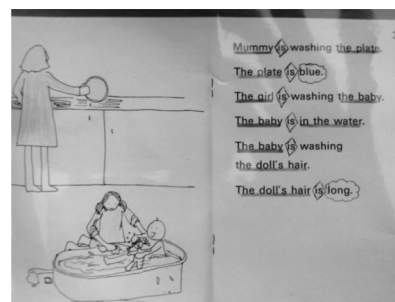
Supporting reading comprehension

- 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

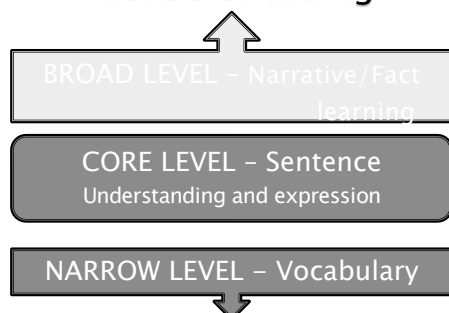
Coded Text Comprehension



Coded Text Comprehension – LTR



Levels of coding



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

Types of Narrative Support

- News
- Familiar texts/stories as a basis for narrative e.g. big book, fairy stories,
- Original narrative
- Non fiction narrative

Structuring a narrative

- ▶ 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

Simple Narrative Structure

when	who	(One day there was a boy)
		and
who	where	(The boy was in the park)
		and
who	doing	(The boy was playing)

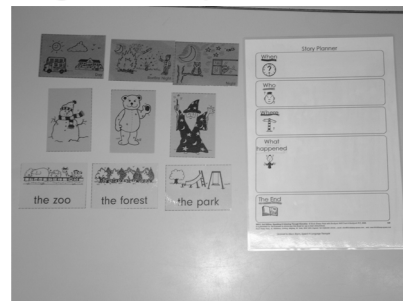
Harder narrative – familiar text

when	who	where	<i>One day Cinderella was at home</i>
			<i>Cinderella was crying in the kitchen</i>
who	doing	where	
then			<i>Then the Fairy Godmother appeared</i>
who	doing		
then			<i>Then Cinderella went to the ball</i>
who	doing		<i>ETC</i>

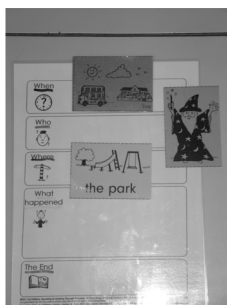
Resource : Black Sheep narrative packs

- ▶ Nursery Narrative Pack
- ▶ *story components:- who, when, what next*
- ▶ Reception Narrative Pack
- ▶ *story components:- who, where, when, what happened next*
- ▶ Fun with Narrative [big books]

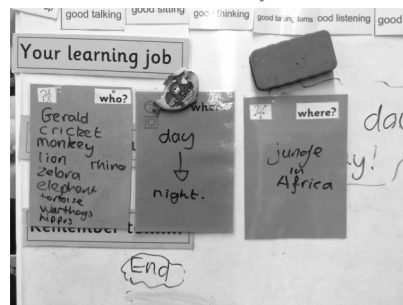
Story options – Creating the Story Starter



Selecting cue cards



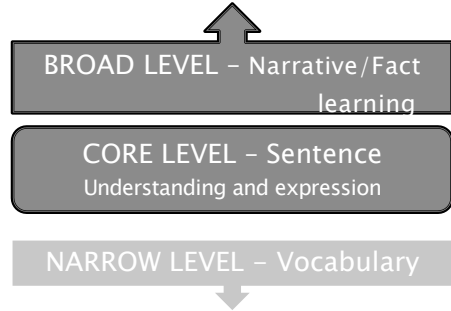
'Giraffes Can't Dance' – Brainstorm story content



Giraffes Can't Dance - Creating own narrative



Levels of coding



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

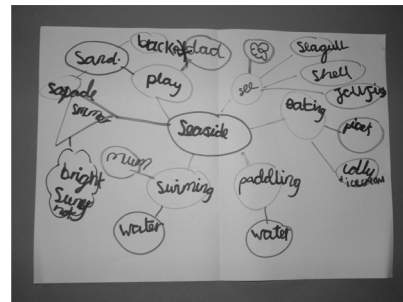
So HOW do you decide which colour/shape to code your vocabulary with?

- ▶ 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.

Colour Coding - seaside vocab



Leona - 'seaside' Topic Mind Map



Learning Facts – KS2 history topic

Amy (Y6 mainstream) used **coded fact sheets** as basis for written work as well as learning the facts.

e.g. CHURCHILL [colour coded]

> What kind of word [i.e. orange 'who']

> When did he live?

> What did he do?

> What was his job?

> Where was his office?

> What was he like? etc

1874 - 1965

Led country. Smoked cigars

Prime Minister

10 Downing Street

Short, balding, clever, good communicator

Similar vocabulary

Coding can be used to clarify the meaning of similar words

prison

where?

prisoner

who?

A burglar

Who did it?

Burgled

What did he do?

A burglary

What is the crime?

ANY QUESTIONS?

References

1. **Black M & Chiat S** (2003). *Linguistics for Clinicians* London:Arnold
2. **Bolderson S** et al (2013) *Child Language, Teaching & Therapy*. Colourful Semantics: A clinical investigation
3. **Bryan A.** (1997) Colourful Semantics. In Chiat S., Law J & Marshall J. (Eds) *Language disorders in children & adults: psycholinguistic approaches to therapy*. London: Whurr
4. **Bryan A.** (1998) Colourful Semantics 2. In *Proceedings of 1998 NAPLIC conference "Language Impairment: theory and practise"*.
5. **Bryan, A., Bolderson, S., Coelho, C. & Dosanjih, C.** (2007). Colourful Semantics: Application in school settings. Afsic 4th International Symposium: Unlocking speech and language. University of Warwick, UK
6. **Chiat S.** (2000) *Understanding Children with Language Problems*. London: Cambridge Univ. Press [Parts II & III]

References cont'd

6. **Ebbels S.** (2007) *Child Language, Teaching & Therapy* Teaching grammar to school aged children with SLI
7. **Hettiarachchi, S.** (2015) The effectiveness of Colourful Semantics on narrative skills with children with intellectual disabilities. *Journal of Intellectual Disabilities* 2015
8. **Jager J. J.** (2005) *Kids Slips:- What young children's slips of the tongue reveal about language development*. Laurence Elbaum Associates.
9. **Jones, E.V.** (1986). Building the foundations for sentence production in a non-fluent aphasic. *British Journal of Disorders of Communication* 21;1 p63-82
10. **Garrett M** (1988) Processes in language production. In F J Newmeyer (ed) *Linguistics: The Cambridge Survey*, Vol 3. Cambridge University Press.
11. **Pinker S.** (1989). *Learnability & Cognition: the acquisition of argument structure*. MIT Press.