A grayscale photograph of a man in a white shirt pointing his right hand towards a chalkboard. The chalkboard is filled with handwritten mathematical problems, including addition and subtraction exercises like '1 + 2 = 3', '3 + 2 = 5', '2 + 3 = 5', '1 + 1 = 2', and '2 + 1 = 3'.

Curriculum Modification Strategies and learners with Down Syndrome

Hanlie Swanepoel
SAOU

3 August 2022

Not Fair!

- Fairness is giving everyone what they need, not equal treatment.
- Fairness does not mean sameness, it means everyone treated with equal respect & opportunity to succeed.
- Fairness is everyone entitled to special help and support to improve a necessary skill.
- Fairness is everyone working together to make sure each student gets what he or she needs in order to do the best job they can.
- Accommodations provide = footing: not unfair advantages; based on need.

CURRICULUM MODIFICATION

- Curriculum Modification is adaptations, adjustments or modifications that relate specifically to the **CONTENT** of a curriculum.
- Therefore it also implies adaptation of the context (environment), LTSM, teaching strategies as well as assessment strategies and procedures.

A grayscale photograph of a man in a white shirt pointing his right hand towards a chalkboard. The chalkboard is filled with faint, handwritten mathematical equations, including $1/2$, $1/3$, $1/4$, and $1/5$. The text of the presentation is overlaid on the image in a white, cursive-style font.

Firstly this presentation will introduce the teacher / student with three 'recipes' to get your teaching started:

- *Nine types of adaptation*
- *Bloom's Taxonomy (revised)*
- *The adaptation ladder*

'Typical Classroom'





#

#

#

#

Per
subject

? Alternative procement

STRADDLING OF GRADES

unwinding of knowledge,
concepts and skills

UNMODIFIED
CURRICULUM

enhanced curriculum



Learner with Down Syndrome:

Learners from this cluster do work on lower grade levels according to the ability to access the curriculum of a particular subject (learning area), but simultaneously adhering to two all-important principles:

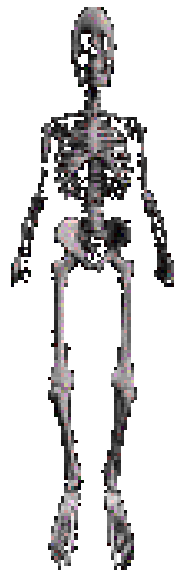


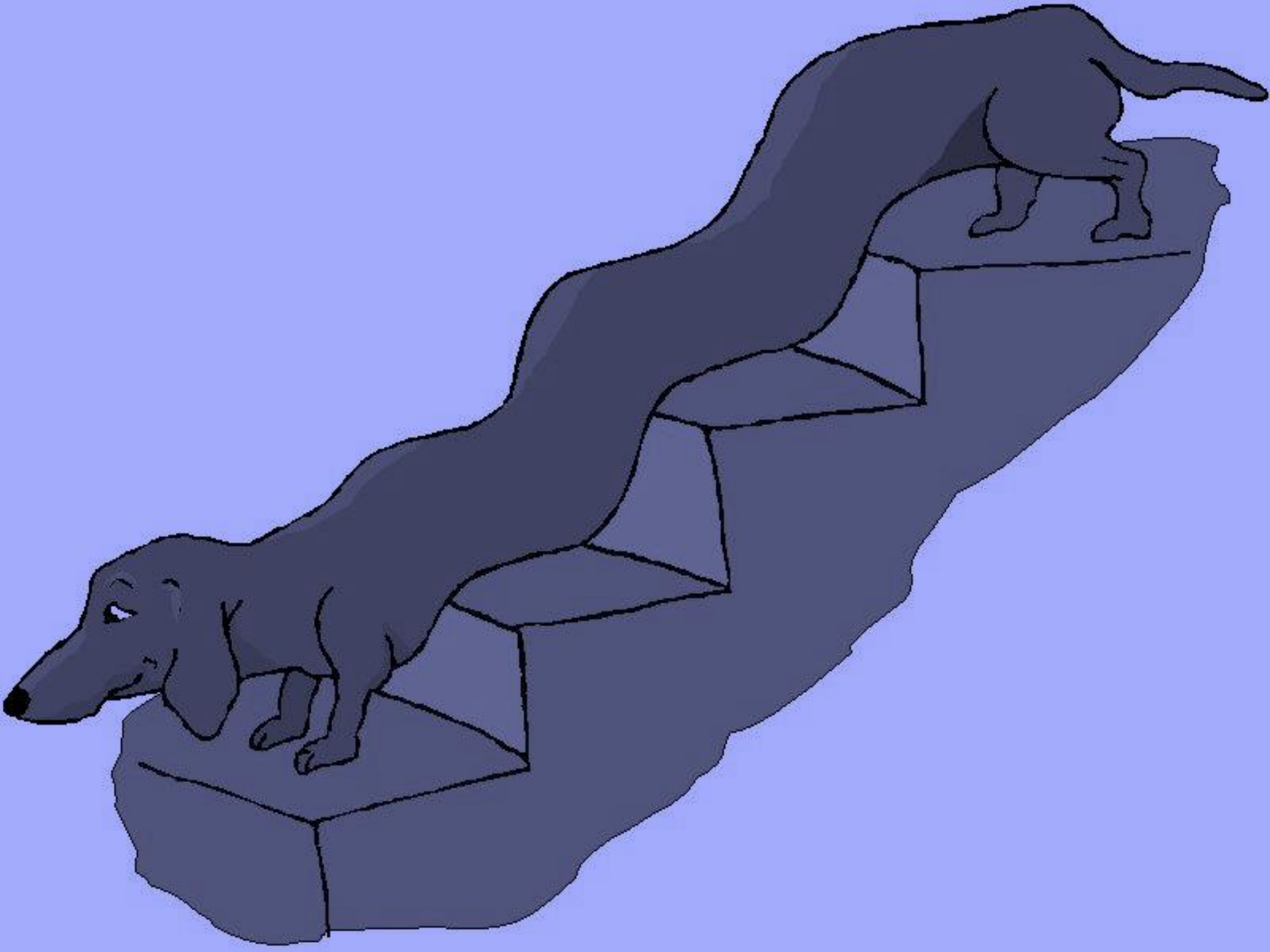
- They still work towards the general **theme** of that of the rest of the cluster groups and
- They also work at the same broad **topic**
- of the rest of the class, but
 - attend to concepts as specified for a lower grade
 - and/or to the same/similar skills, but at a lower level as specified for a lower grade.

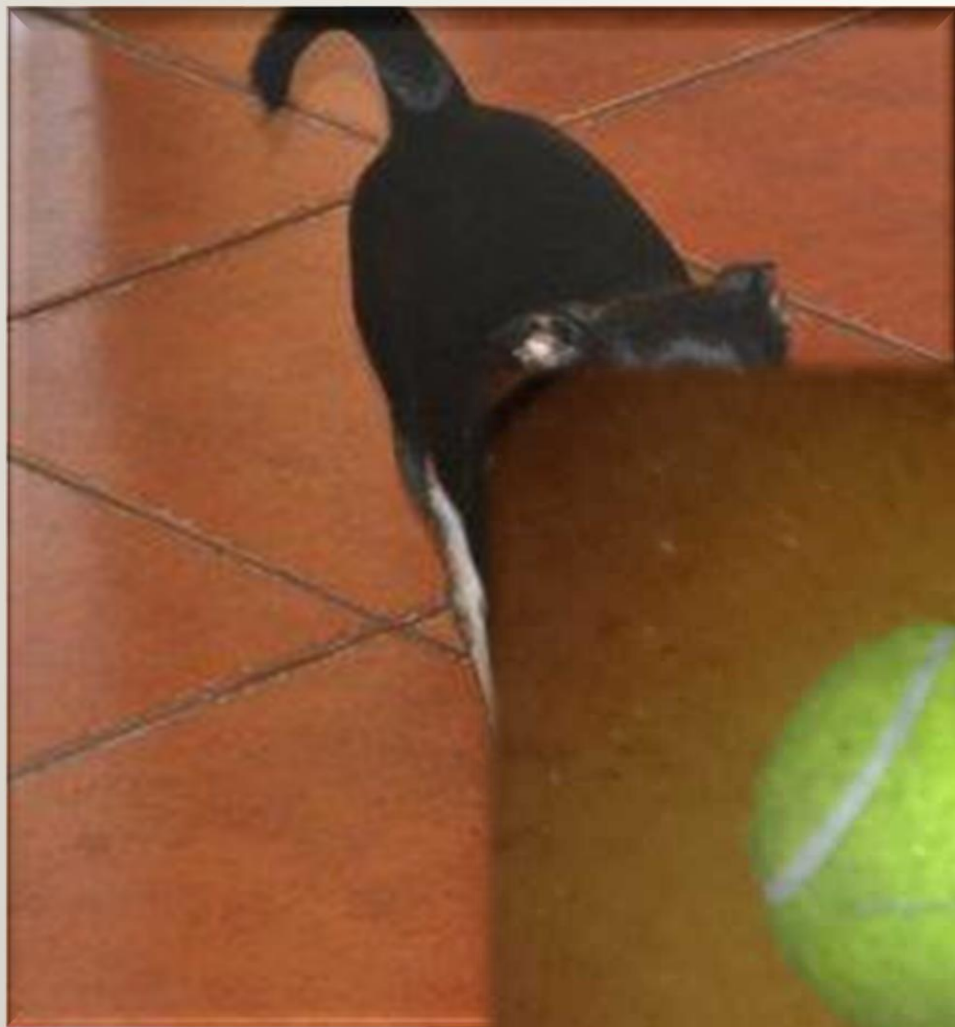


- This method applies to languages and maths, for the rest of the SUBJECTS:

Core knowledge refers to the minimum level of concepts and skills that a learner need to have in order for learning to commence (with additional support) in the following grade.



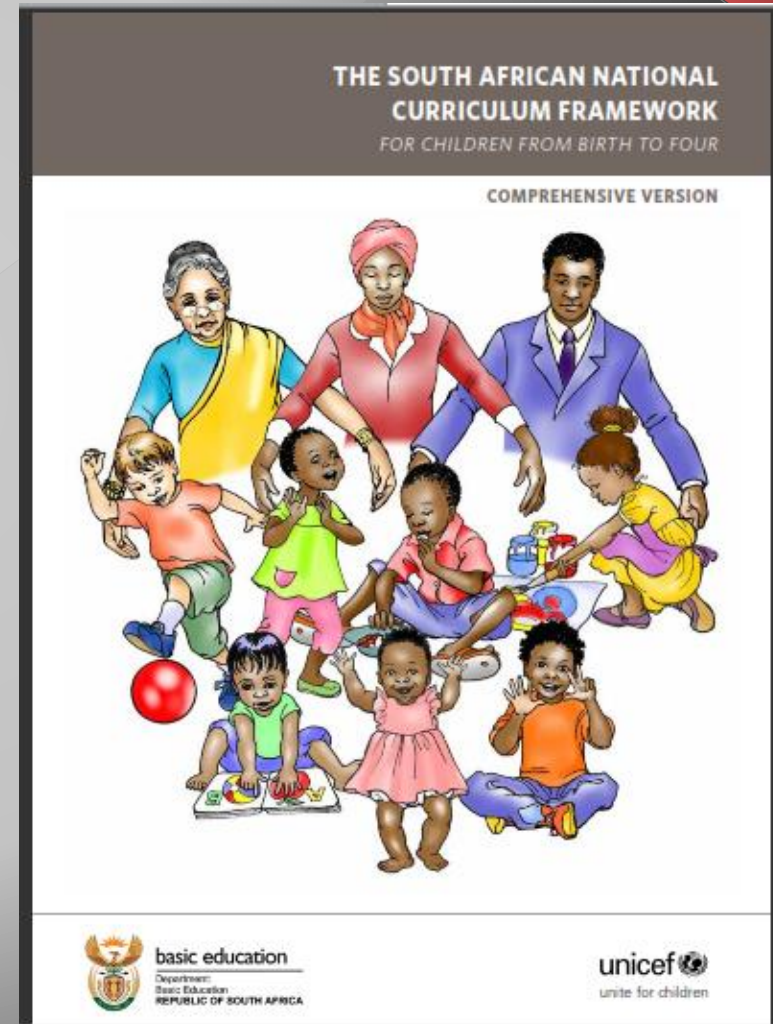
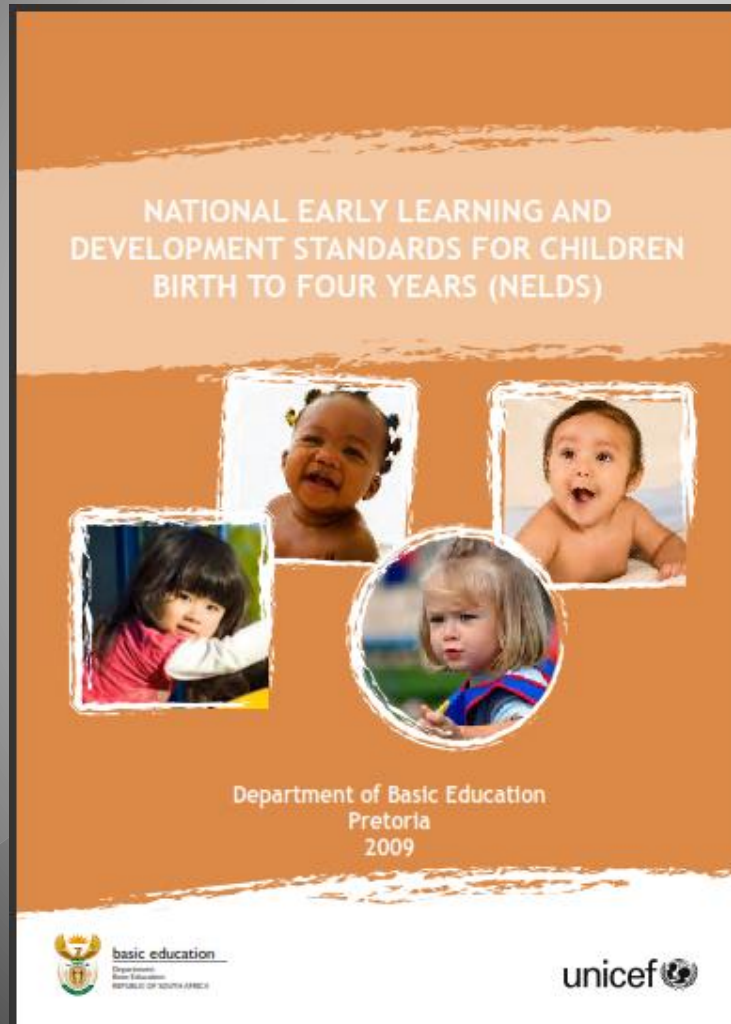




The books / work don't have to look the same!

Where do we go if we have to straddle below grade R?

NELDS
Umalusi





HEALTHY BEGINNINGS:

Supporting Development and Learning
from Birth through Three Years of Age



Every Baby, Every Child

www.marylandhealthybeginnings.org



DIVISION OF EARLY CHILDHOOD DEVELOPMENT
OFFICE OF CHILD CARE

JOHNS HOPKINS
UNIVERSITY

School of Education

CENTER FOR
TECHNOLOGY IN
EDUCATION



Listening, Speaking & Reading:

Delays in: production & comprehension of spoken language

Reasons – wide:

- Repeated middle-ear infections
- low muscle tone
- small oral cavity
- over- or under-sensitivities to touch around the mouth
- general cognitive delay

- ## Reasons – wide:
- Repeated middle-ear infections
 - low muscle tone
 - small oral cavity
 - over- or under-sensitivities to touch around the mouth
 - general cognitive delay



But ...

Most young children with Down syndrome are eager to communicate and naturally use a wide range of gestures and facial expressions.

Levels of **language understanding** are often significantly greater than the child's skills to **speech production**.

Most young children with Down syndrome are eager to communicate and naturally use a wide range of gestures and facial expressions.

Levels of **language understanding** are often significantly greater than the child's skills to **speech production**.

The realisation that reading with meaning was an attainable goal for children with Down syndrome has been a highly significant development of the last two Decades (*Classroom Language Skills for Children with DS Libby Kumin*)

We now accept that they can learn to recognise words from as early as two of three years of age.

Further, teaching children with Down syndrome to read is probably the most effective way of improving both Their language and their ability to think and reason.

Reading & Neuro Typically Developing Child:

- * Development of speech and language comes well before they are introduced to reading.
- * When they start reading they have a large receptive & expressive vocabulary.
- * They know how words are combined to form sentences.
- * When faced with unfamiliar words in a book, they are often able to guess what it says from its place in the sentence or from the context.
- * Reading introduced through phonics

Reading & The child with Down syndrome:

- ⊙ Teaching children with DS to read is the most effective way of improving their language skills.
- ⊙ The child with DS often does not have a large expressive vocabulary.
- ⊙ They don't have a knowledge of language structure._
- ⊙ Phonics approach does not work as well for children with Down syndrome._
- ⊙ They lack both a sound base of language knowledge and have difficulty processing auditory information therefore the phonic approaches present major problems.





Nevertheless, they are able to recognise whole words by sight and by so doing, expand both their spoken vocabulary and their knowledge of grammar!





S M
O a
r t
t o
i e
s s

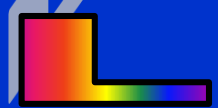


Mommy

Zanile

START

2



window

chair

wall


Place labels where
child can see

Encourage child
to say the word
when he passes



Step 3:

Use words that are most familiar to them e.g.:

- Own name, names of family members
- Objects from experience e.g. dog, car, house, school, teacher, book
- Initial tasks for children to carry out are:
 - Match the word on the flash card to an identical word
 -  Matching single words!
 - Repeat the word aloud after the teacher / parent
 - Indicate in some way – e.g. pointing to themselves or a photo
- that they understand what the word means

Matching two words

Flash
cards

Matthew

Joe

Matching card

Joe

Matthew

Eventually the child can play a form of lotto

•Word lotto

| | | | |
|--------|--------|---------|-----|
| mummy | daddy | Matthew | Joe |
| Sandra | Amanda | Sally | Tim |

| | | | |
|---------|-------|-------|--------|
| Amanda | Tim | mummy | Sally |
| Matthew | daddy | Joe | Sandra |



Learning must be fun!

Encourage learners to take risks

Errorless learning: Moving the learner's hand to the correct flashcard

Physical prompting – pointing to flash card

Gesture prompting – “Are you sure?”,

‘Think again...’, ‘Try again...’

Having learned how to match, the child is now taught to select word on request:

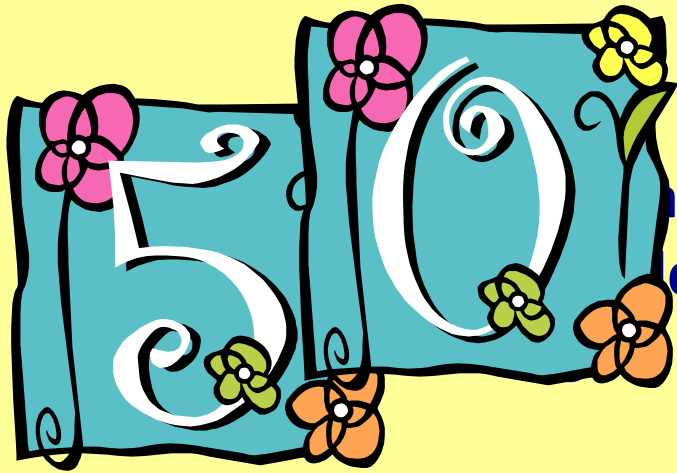
“Give me the word for...”

Ask the child to repeat the word every time.

This is a particular good way of introducing new words into the Learner's vocabulary!

Give attention to both reading accuracy and comprehension! The learner with DS does gain meaning from reading and does not only bark at words!

Don't move to fast! It is very important that reading & language development progress together!



When the learner has a basic sight vocabulary of 50 words, then phonic skills should be introduced. Phonic skills will give them the skills to tackle other words.

Multi sensory approach

- **Word segmentation**
- **Rhyme recognition**
- **Rhyme completion**
- **Rhyme production**
- **Syllable blending**
- **Syllable segmentation**
- **Syllable deletion**



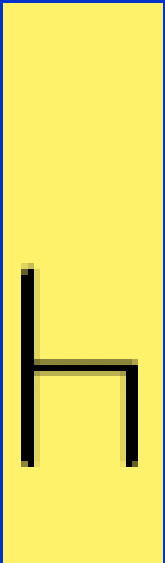
In my work I am constantly looking for ways to enrich learner's language skills
..... Bliss symbolics

I wanted something: easy to use.....

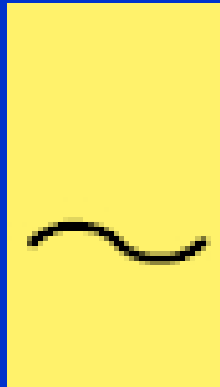
- logic..... •multi-lingual.....
- free..... •Don't need a computer.....
- Researched..... •Standardized.....
- Improves Perceptual skills.....
- Can use as a bridging phase.....

Example of input

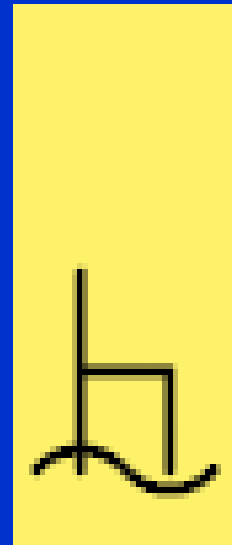
Bliss symbols as a means to facilitate
Language concepts as a bridging phase to
Reading and learning...



+



=



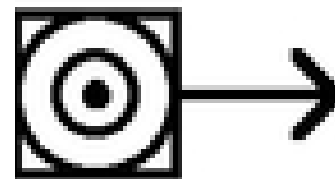
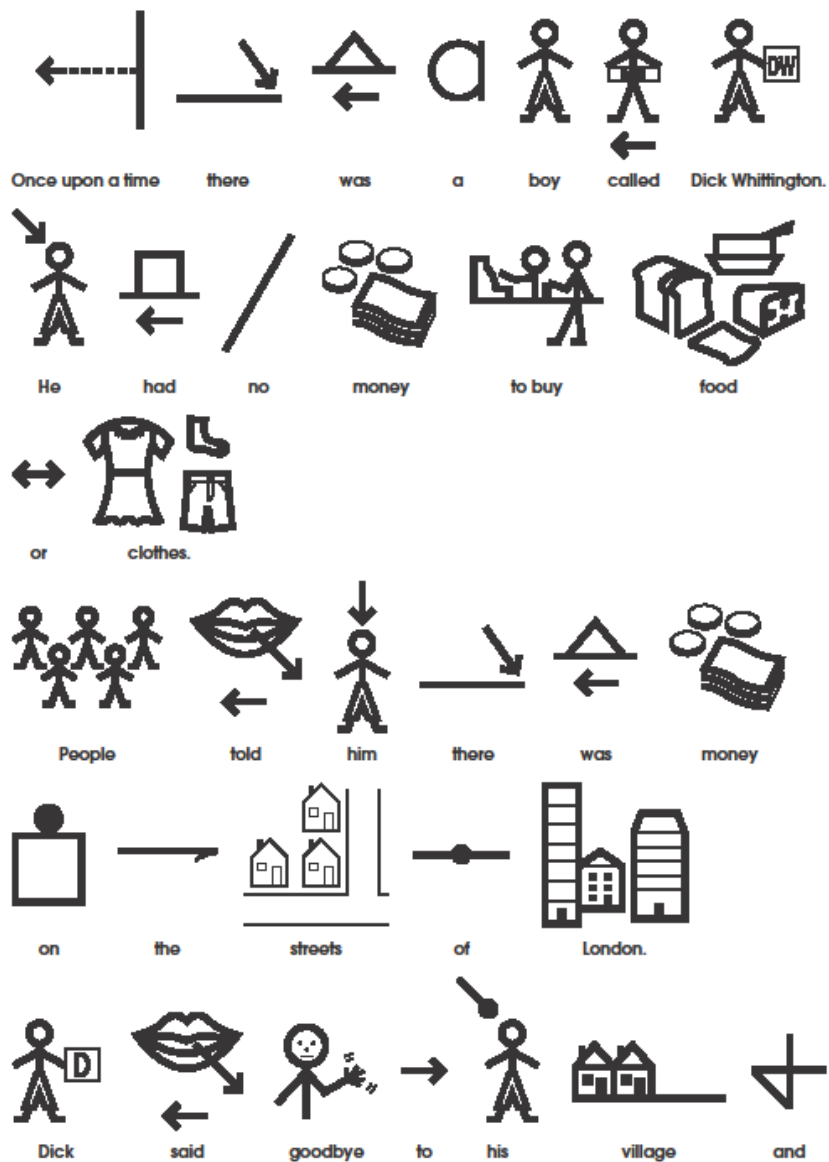
chair

water

?

1 1

Dick Whittington



Bliss

Makato

Alternatives to writing:

• Demonstration

• Spoken word

• Word bank

• Materials (pictures, sounds, words, sentences)

• Drawing

• Ready made text

• Sorting and labeling

• Symbols

• Sequencing

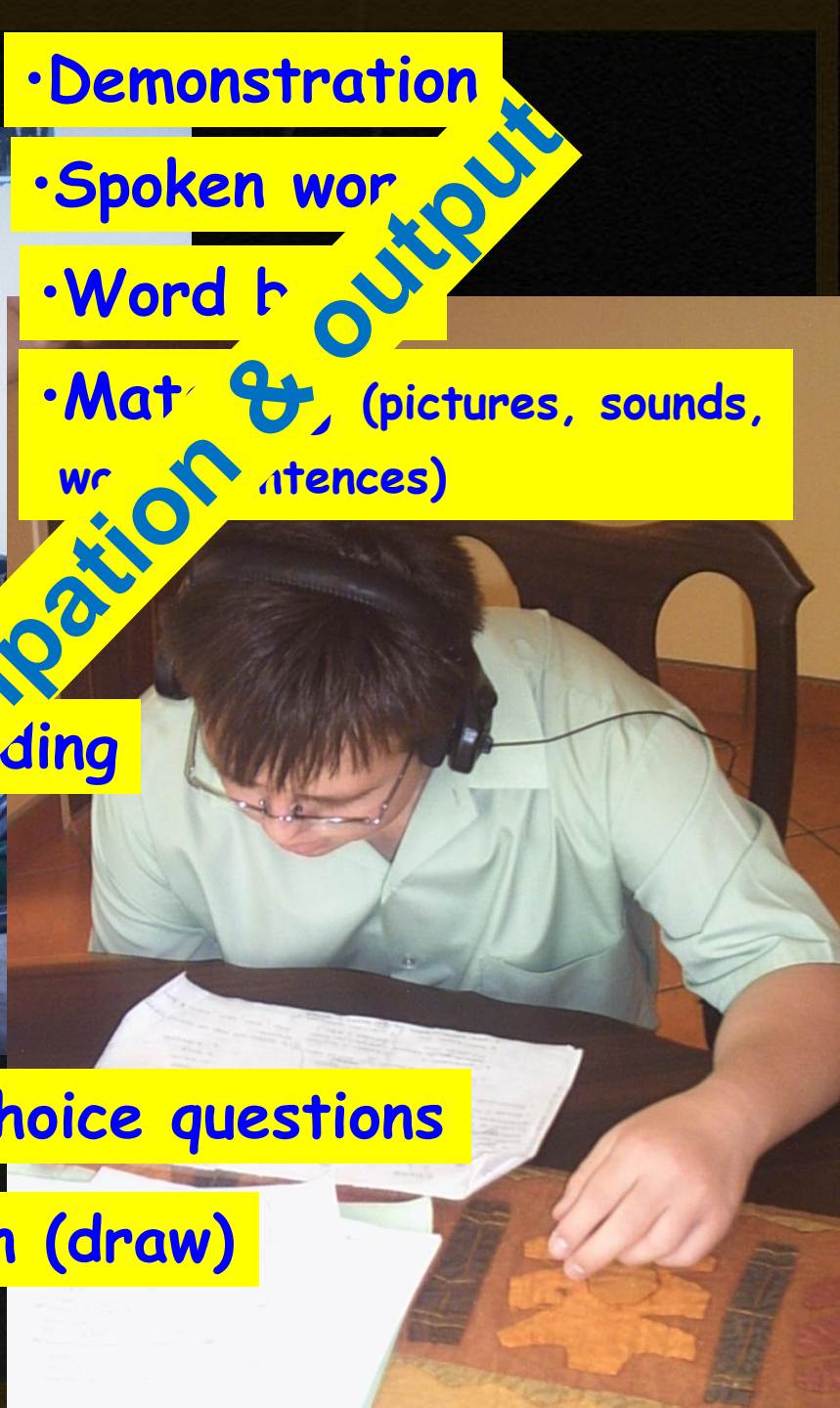
• Multiple choice questions

• Illustration (draw)

• Numbers & Images

• Tracing

Example of participation & output



Modifications to the Modes of Presentation

| verb | Learners may be allowed to respond in the following different modes |
|-------------------------------|---|
| ask | 'communicate' or 'show' depending on what you want them to do. |
| answer / discuss / talk | <ul style="list-style-type: none">• communicate using verbal and non-verbal responses such as visual representations, concrete objects, etc.• Sign language, body language (gestures, pointing to a concrete object, picture, symbol), Makaton² writing or typing |
| explain / give an explanation | Does not only refer to verbal communication, but also non-verbal modes such as <ul style="list-style-type: none">• signing, drawing, writing & typing. |
| recognise | This could include verbal and non-verbal responses such as <ul style="list-style-type: none">• signing, writing, typing, drawing or• pointing to or selecting objects, pictures or word cards. |

Modifications to the Modes of Presentation (cont)

| | |
|---------------------------------------|--|
| name / speak / say | Could also include non-verbal modes such as <ul style="list-style-type: none">• writing, signing or even• pointing to an object or written word. |
| name / speak/ say /suggests/ proposes | This could include verbal and non-verbal communication, such as <ul style="list-style-type: none">• signing, writing, typing, drawing, pointing to words, objects, pictures, etc. |
| write | Alternatives to written communication could include <ul style="list-style-type: none">• drawing, typing, signing, choosing alternatives (word cards, pictures),• pointing to a selected word,• having a scribe/buddy write,• recordings, etc. |

When the assessment standard requires the learner to:

Speak:

Ask, answer, discuss
Talk, explain, give an
Explanation, recognise
Name; speak, suggest
propose

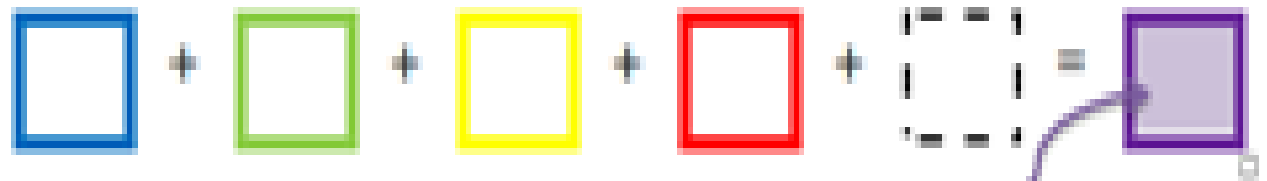
Communicate; show;
Sign language; body
Language; gestures;
Pointing to: object;
Picture; symbol
Makaton, writing,
typing

Example of different participation

A grayscale photograph of a man in a white shirt pointing his right hand towards a chalkboard. The chalkboard is filled with handwritten mathematical equations, including $2 \cdot 3 \cdot 2$, $2 \cdot 3 \cdot 2$, $2 \cdot 3 \cdot 2$, and $2 \cdot 3 \cdot 2$. The text "Curriculum Modification Strategies" is overlaid on the image in a large, bold, white font with a red outline.

Curriculum Modification Strategies

CLUSTER GROUP “ESTIMATES”



This number should be the total of the class roll.





CLUSTER GROUPS

- NOT to be seated in CLUSTER groups



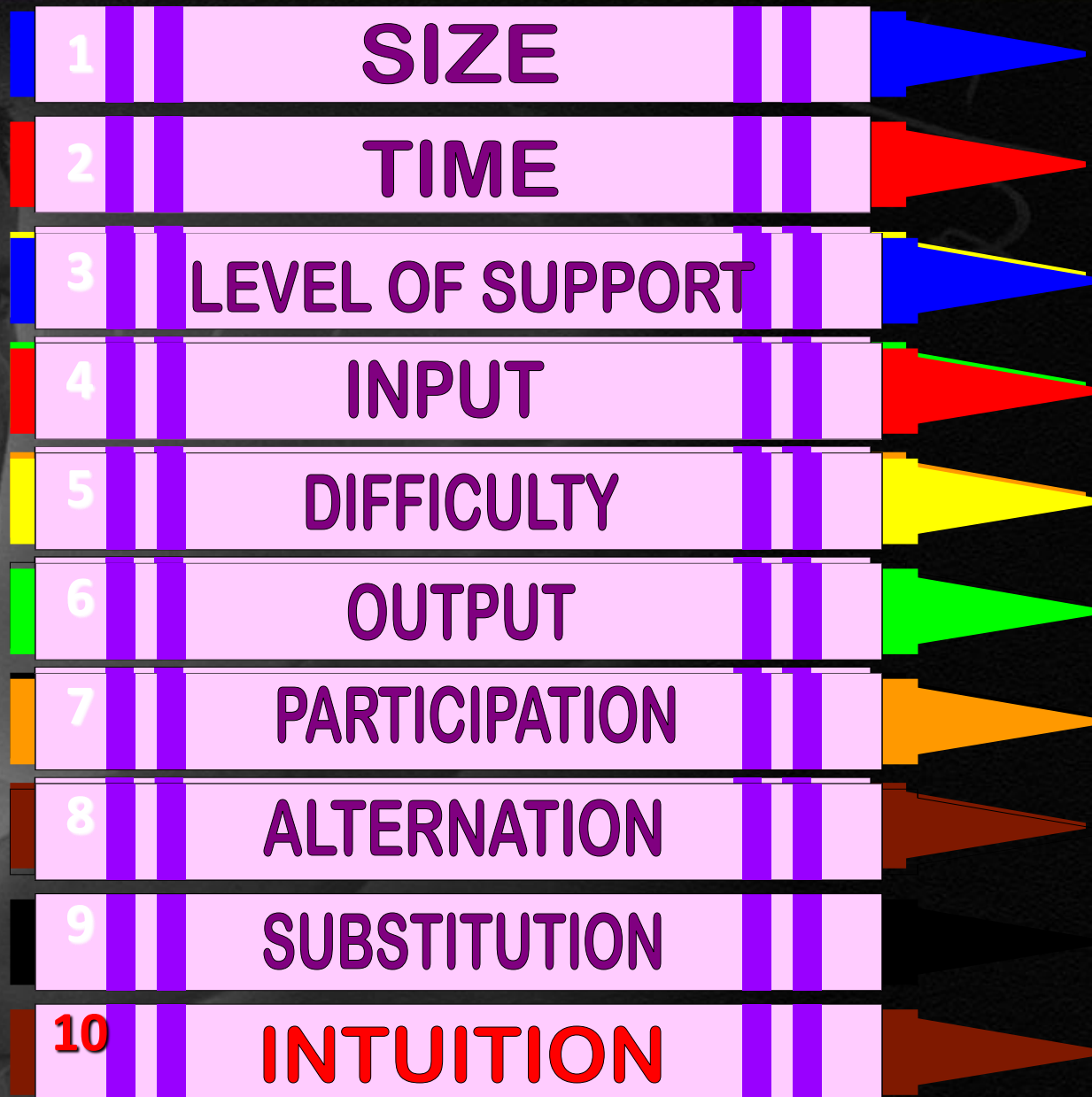
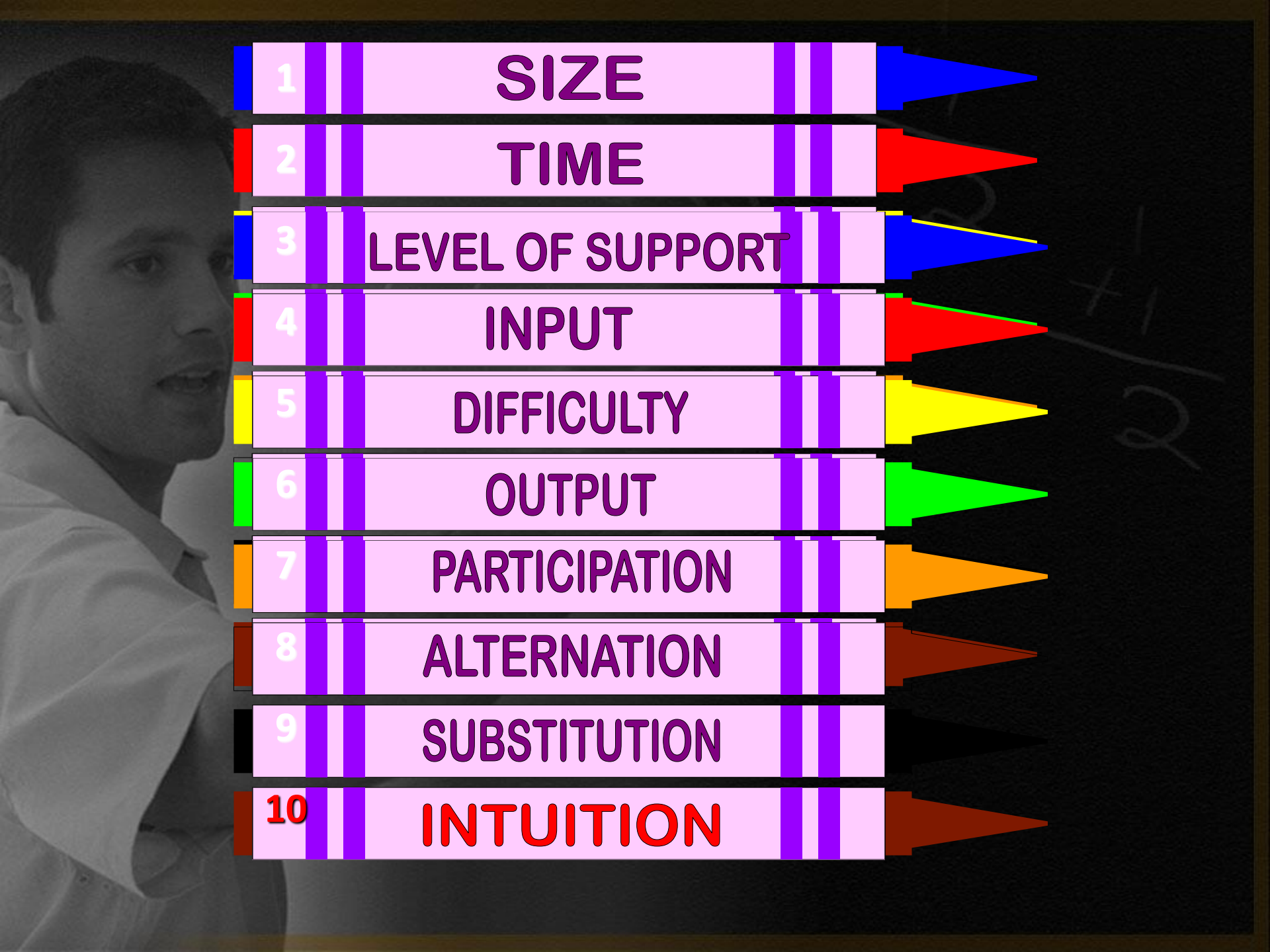
- WHY?????
- Exceptions?....
- If not, then what???



A man in a white shirt is pointing his right hand towards a chalkboard. The chalkboard is dark and has several mathematical equations written on it in white chalk. The equations include $1+2=3$, 2×2 , $1/2$, and $1/2$. The man is looking towards the right side of the frame.

Curriculum Modification strategies

Nine types of adaptation



huan Swanepoel

SPRAAK EN DRAMA
GRAAD 8
SEPTEMBER 2005
EKSAMINATOR: ELSJE VAN ZYL

TYD: 1 UUR
TOTAAL: 50

Beantwoord die volgende vra:

1. Wat noem ons die organe wat ons gebruik om te praat? (1)

spraakorgane ✓ (1)

2. Noem 5 (vyf) van die organe: (5)

lippe, karskeene, tong, tand, mond ✓ (5)

3. Noem 5 (vyf) van die holtes wat ons gebruik om klank te versterk: (5)

kopholte, nussholte, keelholte, mondholte, keelholte ✓ (5)

4. Noem 2 (twee) verskille tussen klanke en letters: (4)

spraakorgane vorm klanke, spraakorgane vorm nie letters ✓ (2)

5. Beskryf die vokale in die woord: "sewe" (6)

6. Wat is 'n vokaal? (3)

7. Gebruik die volgende aanhaling en dui 3 klem aan: Benoem dit. (6)

"Dan is daar net een uitweg! Hulle moet die kinders agtergyselaars aanhou en ander vervoer eis. Verkieslik 'n vliegtuig."

8. Noem 4 (vier) maniere waarop jy kan beklemtoon: (4)

gaan jy droef toe ✓
gaan jy droef toe ✓
ek sal jou soos 'n voor ✓
manie pla my ✓

9. Wat is frasiering? (2)

woord, gedagtes ✓
10. Gebruik die aanhaling en dui 3 (drie) soorte pouses aan. Benoem d (6).
pouses, dralende pouses ✓ (2)

"Tel en magteloos moet die luitenant toekyk hoe Bene die bus by die
holkkade-tekens laat verbyskuur en dan skielik vinniger ry en in 'n
volk verdwyn."

11. Hoekom is korrekte pousering so belangrik? (4)

12. Waar kry ons 'n dralende pouse? (1)

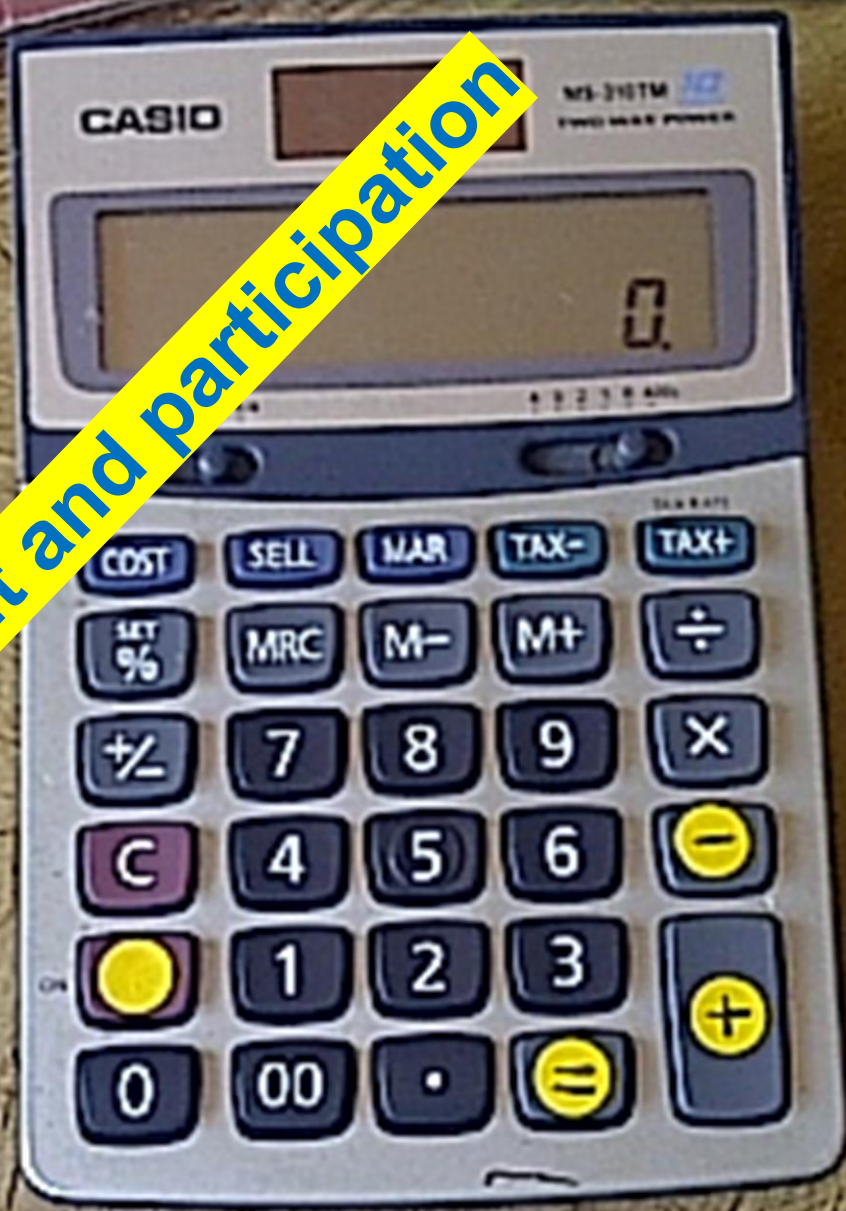
bruek, ras, ritme, pos ✓ (1)

13. Wat is 'n monoftong? (1)

14. Onderstreep die diftong in die volgende woorde: (2)

Kat, draai, besoek, leeu ✓ (2)

Example of output and participation
Level 1 and 2



Gebrauch die subtrahierende um die folgende summe zu te weik

$$54 + 24 =$$

$$47 + 28 =$$

$$36 + 49 =$$

$$55 + 43 =$$

$$65 + 28 =$$

by die
e. shu

gahreher

$$9 + 4$$

$$11 + 2$$

$$+ 26$$

$$47 + 28 = 47 + 20 \rightarrow 67 + 8 = 75$$

$$= (40 + 20) + (7 + 8) \\ = 60 + 15 \\ = 60 + 10 + 5 \\ = 75$$

$$36 + 49 = 36 + 40 \rightarrow 76 + 9 = 85$$

$$= (30 + 40) + (6 + 9) \\ = 70 + 15 \\ = 70 + 10 + 5 \\ = 85$$

$$55 + 43 = 55 + 40 \rightarrow 95 + 3 = 98$$

$$= (50 + 40) + (5 + 3) \\ = 90 + 8 \\ = 98$$

27 Februar

M

die folgende summe zu te weik

die folgende summe zu te weik

Gebrauch die subtrahierende um die folgende summe zu te weik

$$47 + 28 = 47 + 20 \rightarrow 67 + 8 \rightarrow 70 + 3 \rightarrow 73$$

$$54 + 38 = 54 + 40 \rightarrow 94 + 8 \rightarrow 90 + 2 \rightarrow 92$$

$$66 + 29 = 66 + 30 \rightarrow 96 + 9 \rightarrow 90 + 3 \rightarrow 93$$

$$55 + 43 = 55 + 50 \rightarrow 105 + 3 \rightarrow 90 + 15 \rightarrow 105$$

$$73 + 28 = 70 + 3 + 20 \rightarrow 90 + 3 + 8 \rightarrow 90 + 11 \rightarrow 90 + 10 + 1 = 101$$

Gebrauch die subtrahierende um die folgende summe zu te weik

$$57 + 54 = (50 + 50) + (7 + 4) \\ = 100 + 11 \\ = 110 + 1 \\ = 111$$

$$44 + 45 = (40 + 40) + (4 + 5) \\ = 80 + 9 \\ = 89$$

$$56 + 37 = (50 + 30) + (6 + 7) \\ = 80 + 13 \\ = 80 + 10 + 3 \\ = 93$$

$$65 + 36 = (60 + 30) + (5 + 6) \\ = 90 + 11 \\ = 90 + 10 + 1 \\ = 101$$

$$75 + 28 = (70 + 20) + (5 + 8) \\ = 90 + 13 \\ = 90 + 10 + 3 \\ = 103$$

Example:

Sammy's Spaza Shop:

1. When I am big and really grown
2. I'll be a salesman with a shop of my own.
3. There will be tins of this and bags of that
4. And on the **box** I'll have a **ginger cat**.
5. A bell will tinkle when you open the door.
6. A sign will tell you it's a Spaza Shop.
7. There will be **bread** and **sweets and chacha** in small plastic bowls
rama
8. And apples and bananas and oranges and things.
9. When you enter my shop I'll say and say:
10. "Good morning, dear neighbor! What would you like today?"

Answer the following questions

1. What is the name of the shopkeeper? S _ _ _ _ _
2. What will sit on the box? (4) _ _ _ _ _
3. What kind of food will be kept in the store? (7) _ _ _ _ _
4. Tinkle and kettle are in the same word family. Explain
5. Can you find other words like tinkle and kettle in the dictionary?

Cut out pieces of paper from a magazine.




5 healthy /
5 unhealthy



Do the first 3 questions


Circle all the words with a double ll with a pen

Example of Size, Input and Bloom's taxonomy
Level 1 and 2

The Climb (Miley Cyrus)

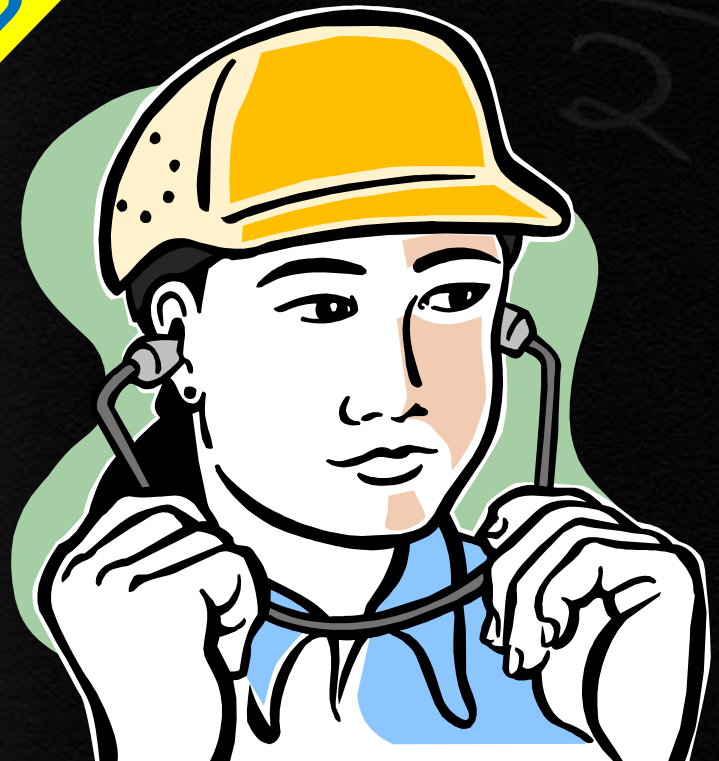
I can almost see  it
That dream I am dreaming 
But there's a voice inside my head  saying
"You'll never reach it"

Every step  I'm taking
Every move I make feels
Lost with no direction 
My faith is shaking

But I gotta keep trying
Gotta keep my head high 

Nearly quite; exactly

Example of input and Barret's level 1



see

dream

direction

high

head

Example of Size, output and
difficulty

A grayscale image of a person's arm and hand holding a large, open book. The book has a red cover and white pages. In the background, there are faint, chalk-like mathematical formulas on a dark surface, including $2=3$, $2+3=5$, and $1/2$.



Trust your 'gut feeling' !



Draw from your own experience as teacher and perhaps a parent as well !



Think and design on your feet !



Do not plan too far ahead – build on today's successes (or failures) in order to design for tomorrow !



You won't go wrong, because ...



... even your so-called 'worst effort' will still be better than exposing the learner (once again) to demands of the curriculum that :

- he is not able to meet with YET !*
- or that he has met grades ago !*



GOAL



Adaptation ladder:

Can the learner do the same
as peers?

Spelling

If not can...

Does the same activity but with
Adapted Ass?

Less words

If not can...

Does a similar activity but with
Adapted Ass?

Matching words
to pictures

If not can...

Does a similar activity but with
Adapted resources?

Computer
Spelling
program

If not can...

Does a different, parallel
activity?

Word processing
with spell
checker

Cell phones???

Bloom's Taxonomy

- *The mind is not a vessel to be filled, but a fire to be ignited.*
(Plutarch)

Classification of the most common levels of questions ...



6 Levels of thinking...

EVALUATION **Creating**

Generating new ideas, products, or ways of viewing things

SYNTHESIS (evaluate critically)

Justifying a decision or course of action

ANALYSIS (**Analysing**)

Breaking information into parts to explore understandings and relationships

APPLICATION (**Applying**)

Using information in another familiar situation

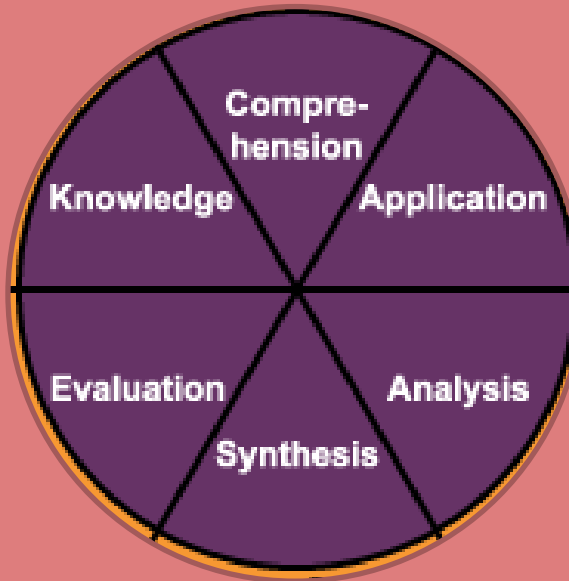
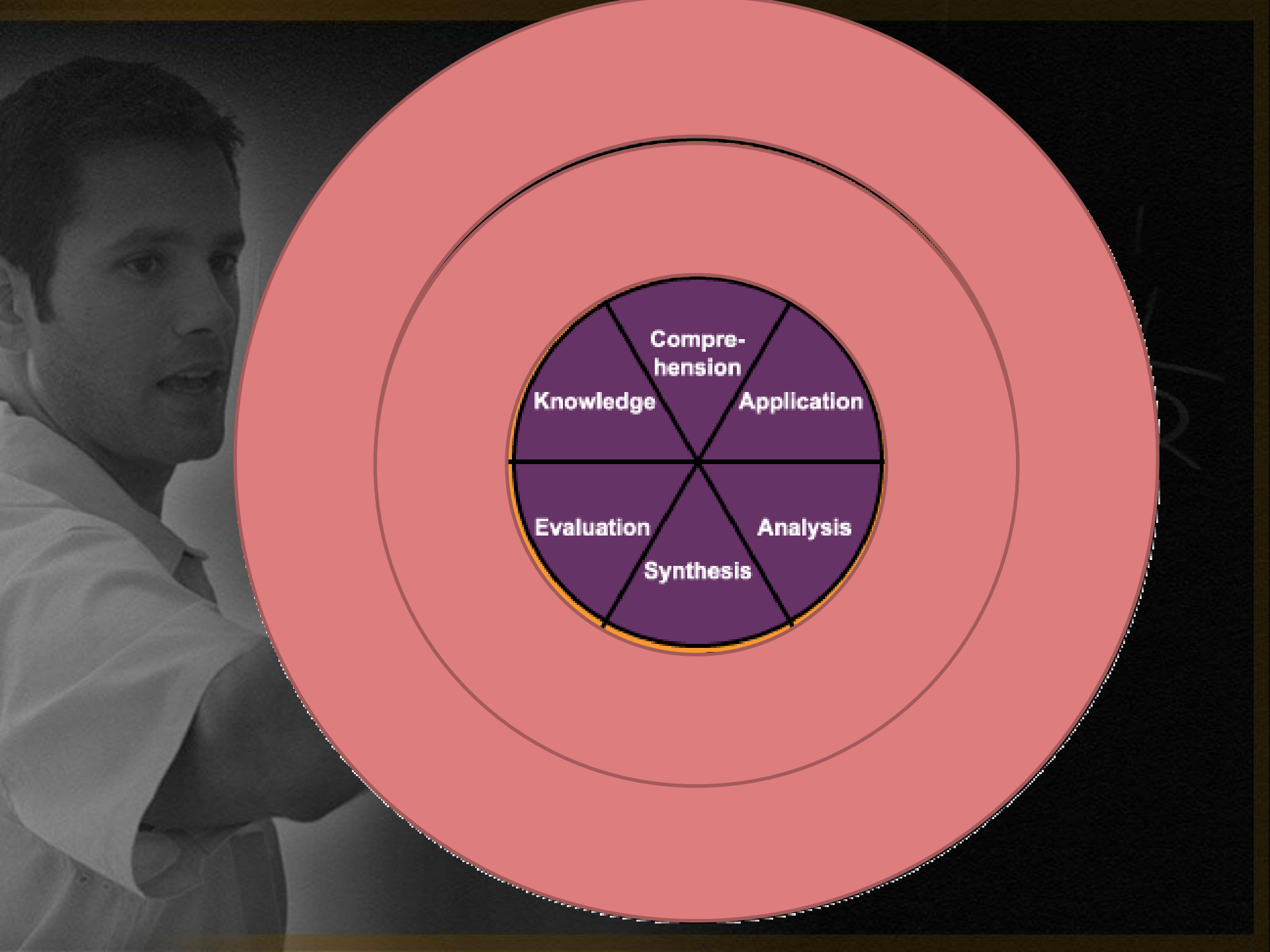
COMPREHENSION **Understanding**

Explaining ideas or concepts

KNOWLEDGE (**Remembering**)

Recalling information

Higher-order thinking



A grayscale photograph of a man in a light-colored shirt pointing his right hand towards a chalkboard. The chalkboard is filled with faint, handwritten mathematical equations, including $1+2=3$, $2+3=5$, $3+4=7$, $4+5=9$, $5+6=11$, $6+7=13$, $7+8=15$, $8+9=17$, $9+10=19$, $10+11=21$, $11+12=23$, $12+13=25$, $13+14=27$, $14+15=29$, $15+16=31$, $16+17=33$, $17+18=35$, $18+19=37$, $19+20=39$, $20+21=41$, $21+22=43$, $22+23=45$, $23+24=47$, $24+25=49$, $25+26=51$, $26+27=53$, $27+28=55$, $28+29=57$, $29+30=59$, $30+31=61$, $31+32=63$, $32+33=65$, $33+34=67$, $34+35=69$, $35+36=71$, $36+37=73$, $37+38=75$, $38+39=77$, $39+40=79$, $40+41=81$, $41+42=83$, $42+43=85$, $43+44=87$, $44+45=89$, $45+46=91$, $46+47=93$, $47+48=95$, $48+49=97$, $49+50=99$, $50+51=101$, $51+52=103$, $52+53=105$, $53+54=107$, $54+55=109$, $55+56=111$, $56+57=113$, $57+58=115$, $58+59=117$, $59+60=119$, $60+61=121$, $61+62=123$, $62+63=125$, $63+64=127$, $64+65=129$, $65+66=131$, $66+67=133$, $67+68=135$, $68+69=137$, $69+70=139$, $70+71=141$, $71+72=143$, $72+73=145$, $73+74=147$, $74+75=149$, $75+76=151$, $76+77=153$, 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$726+727=$

*The **verb** within the questions is the teacher's method of channeling the answer in a certain direction. Note the following examples, all treating a single problem, yet each a little different because of the verb:*

- Find
- Explain
- Use
- Pick out
- Plan
- Discuss



- Remember
- Understand
- Apply
- Analyse
- Synthesis
- evaluate



Fill in the following sentences:

The temperature in Pretoria will be _____

Explain why it is going to be cold or hot in Pretoria:

Use the information on the temperature and discuss the weather in Pretoria:

Compare the temperature of Pretoria with the temperature of Johannesburg:

If people ask you to tell them about the weather of Pretoria and Johannesburg, what would you tell them?

Discuss the temperatures in Pretoria and Johannesburg And give reasons for where you think is the best place to Live regarding the temperatures of both cities.

| Unmodified learning | Enhanced learning | Unmodified scaffolding learning / | Straddled learning |
|--|---|---|--|
| Learners talk in groups about street children | Learners talk in groups about street children | Learners talk in groups about street children | Learners talk in groups about street children |
| Learners do paired reading with the yellow cluster group when they take turns to read the story about Peter Phake. | Learners do research on street children | Learners do paired reading with the yellow cluster group when they take turns to read the story about Peter Phake | Learners read the first sentence of every paragraph. |
| Learners answer questions orally. | Learners answer questions orally. | Learners answer questions orally. | Learners answer questions 1 and 2 and 3 orally |
| Match the words with their meanings. Write the words in blue in your dictionary. | Match the words with their meanings. Write the words in blue in your dictionary. Find synonyms and antonyms for the words in blue | Match the words with their meanings. Write the words in blue in your dictionary. | Match the words with their meanings only. |
| Complete comprehension test | Complete comprehension test Pretend you are a journalist. Prepare questions to ask a street child. | Only complete the first 4 questions. | Prepare strips with the first sentences of every paragraph. Ask the children to put the sentences in the correct order. Learners copy these sentences in their books |

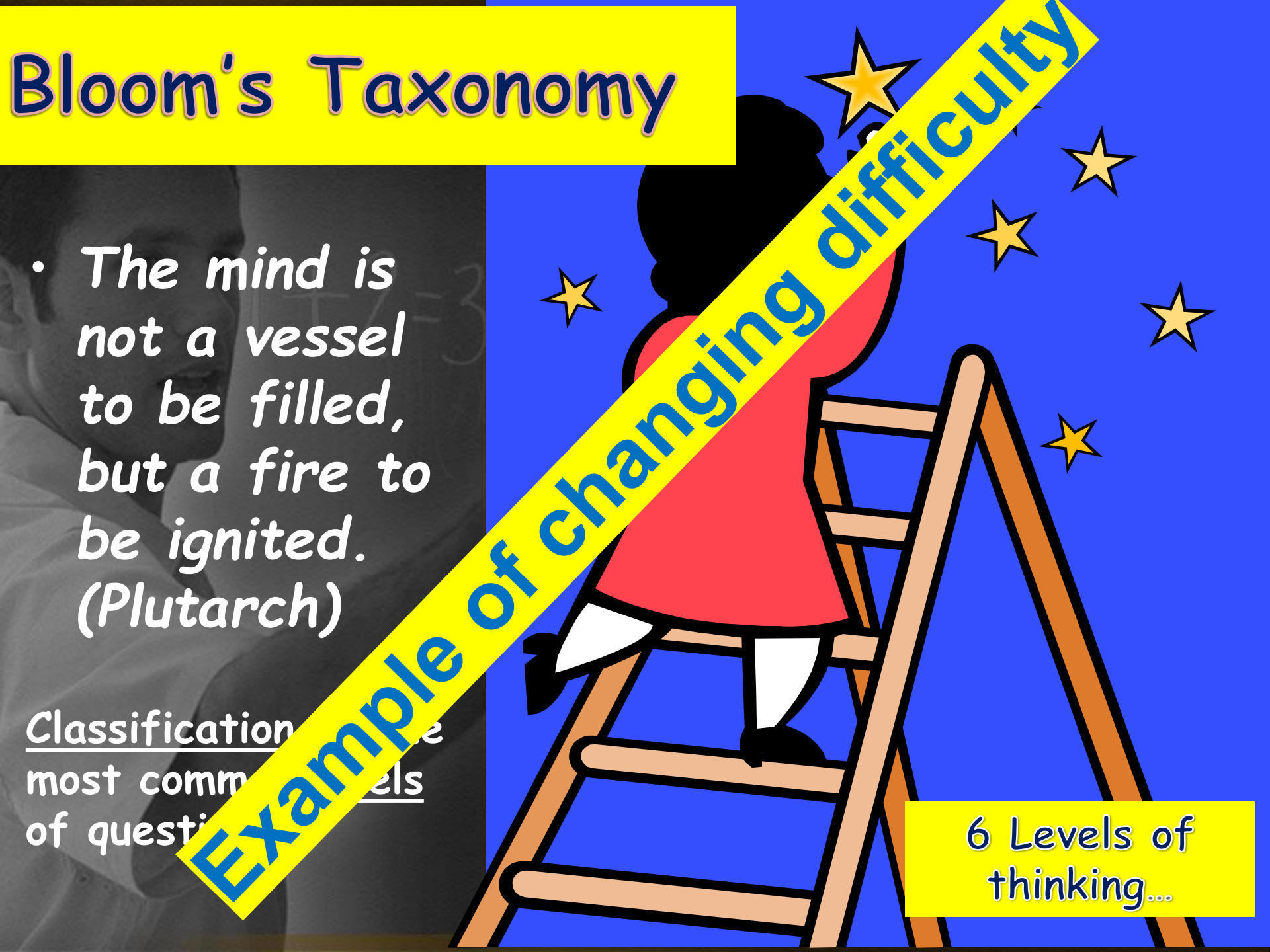
Bloom's Taxonomy

- *The mind is not a vessel to be filled, but a fire to be ignited.*
(Plutarch)

Classification of the
most common levels
of question

Example of changing difficulty

6 Levels of
thinking...



EVALUATION **Creating**

Generating new ideas, products, or ways of viewing things

SYNTHESIS (evaluate critically)

Justifying a decision or course of action

ANALYSIS (**Analysing**)

Breaking information into parts to explore understandings and relationships

APPLICATION (**Applying**)

Using information in another familiar situation

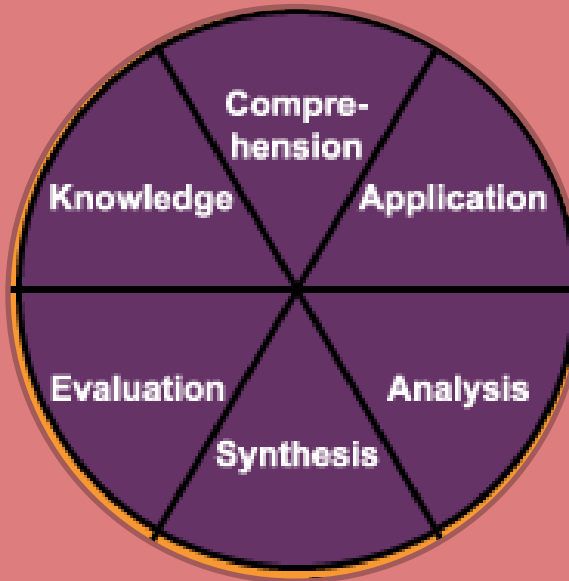
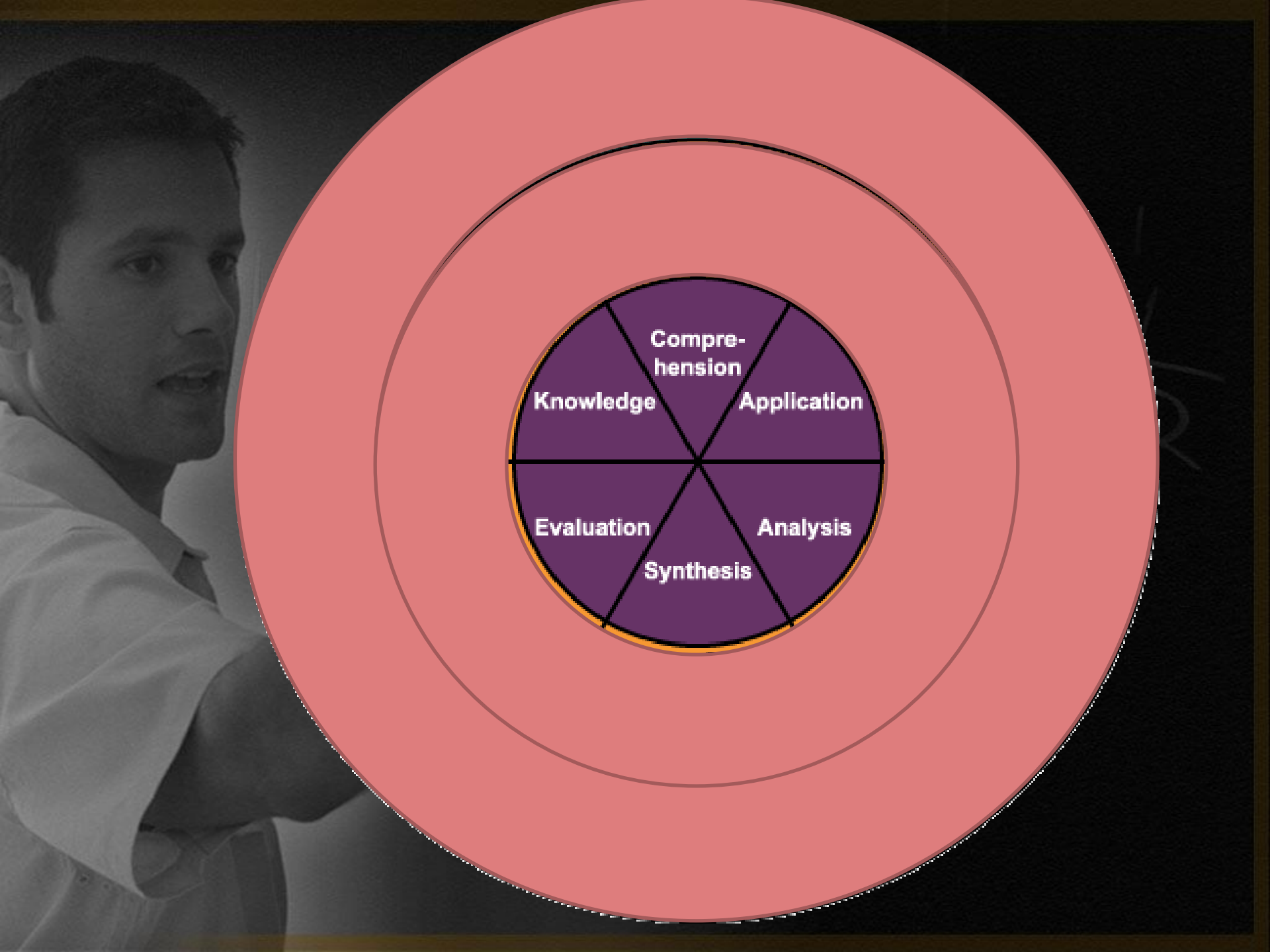
COMPREHENSION **Understanding**

Explaining ideas or concepts

KNOWLEDGE (**Remembering**)

Recalling information

Higher-order thinking



A grayscale photograph of a man in a light-colored shirt pointing his right hand towards a chalkboard. The chalkboard is filled with faint, handwritten mathematical equations, including $1+2=3$, $2+3=5$, $3+4=7$, $4+5=9$, $5+6=11$, and $6+7=13$. The man is looking towards the camera with a slight smile.

Bloom's:

designed to evaluate the ability to think at any of the six different levels of abstraction;

***to help learners' decide how to study –
since each level of abstraction will require use of a different***

learning strategy

E.g.

Write a report on the temperature of Pretoria:

*The **verb** within the questions is the teacher's method of channeling the answer in a certain direction. Note the following examples, all treating a single problem, yet each a little different because of the verb:*

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- Explain
- Use
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Discuss the temperatures in Pretoria and Johannesburg And give reasons for where you think is the best place to Live regarding the temperatures of both cities.

Life does not have to be perfect to be wonderful.

Annette Funicello





Blessed are the flexible for they shall not be
bent out of shape.

Blessed are those who can laugh at
themselves, for they shall never go
un-amused.

Terry Brown