- Distinctions between neurodevelopmental differences and disabilities

- Dynamic assessment

- The scientist-practitioner model – Common ground

- What is learning

- The SPELL Approach
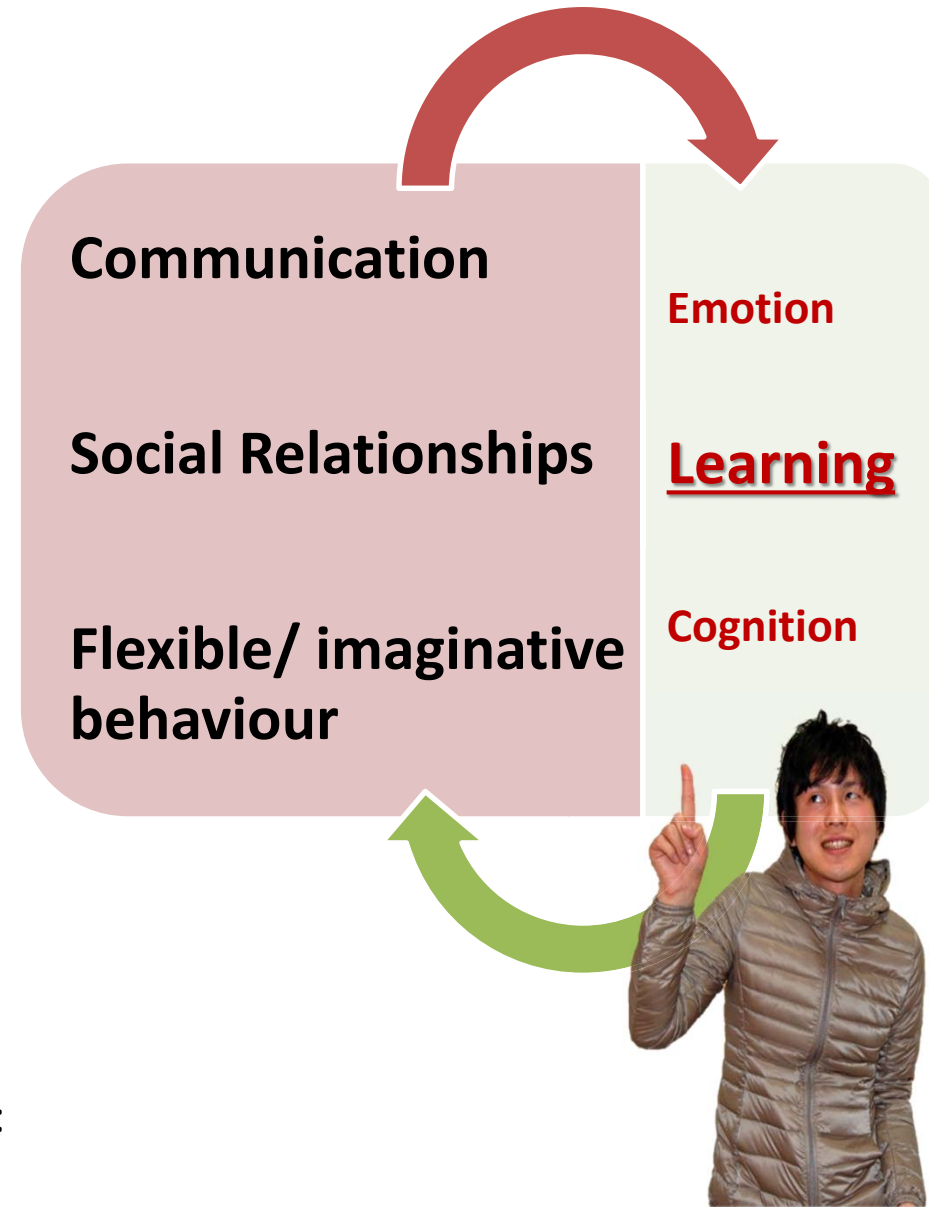
- Evidence Based Practices -IPSO

1. Cognitive development progresses via a fixed progression of age related stages –

2. Learning to read by 'phonics' is the most advantageous method

3. People are 'right-brained' or 'left-brained'

4. Use of whiteboards, PowerPoint etc. divides attention and learning is impaired

5. Humans only use a small percentage of their brain

6. Students have 'learning styles'

All children can learn but some may have diverse learning needs, they may have a straightforward diagnosis, may be sub-clinical or may not fit neatly into a category :

- Autism Spectrum Conditions (ASC)
- Asperger Syndrome
- Intellectual Disability
- Attention Deficits
- ADHD and Other 'Neurodevelopmental Disorders'

Likely to effect:

Communication

Social Relationships

Flexible/ imaginative behaviour

Emotion

Learning

Cognition

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Hyper and/or Hypo-Sensitivity

Speech & Language Problems

Intellectual Disability

Fragile X

Disorders of sleep & eating

Tuberous Sclerosis

Anxiety & Depression

PKU

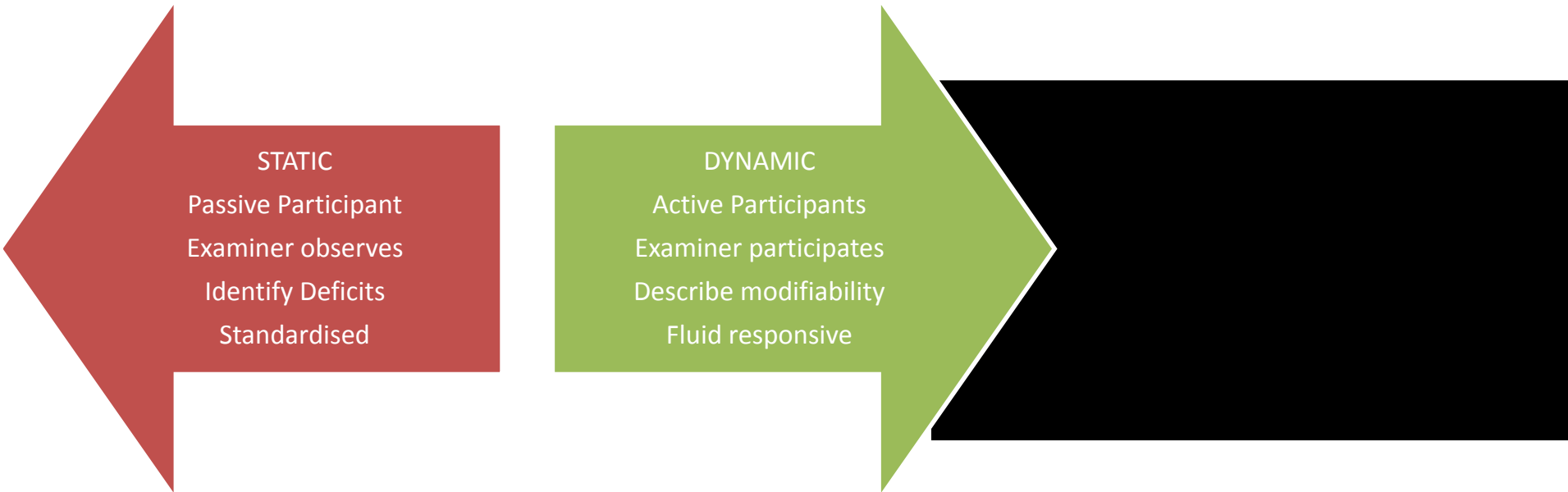Attention Difficulties

Processing speed
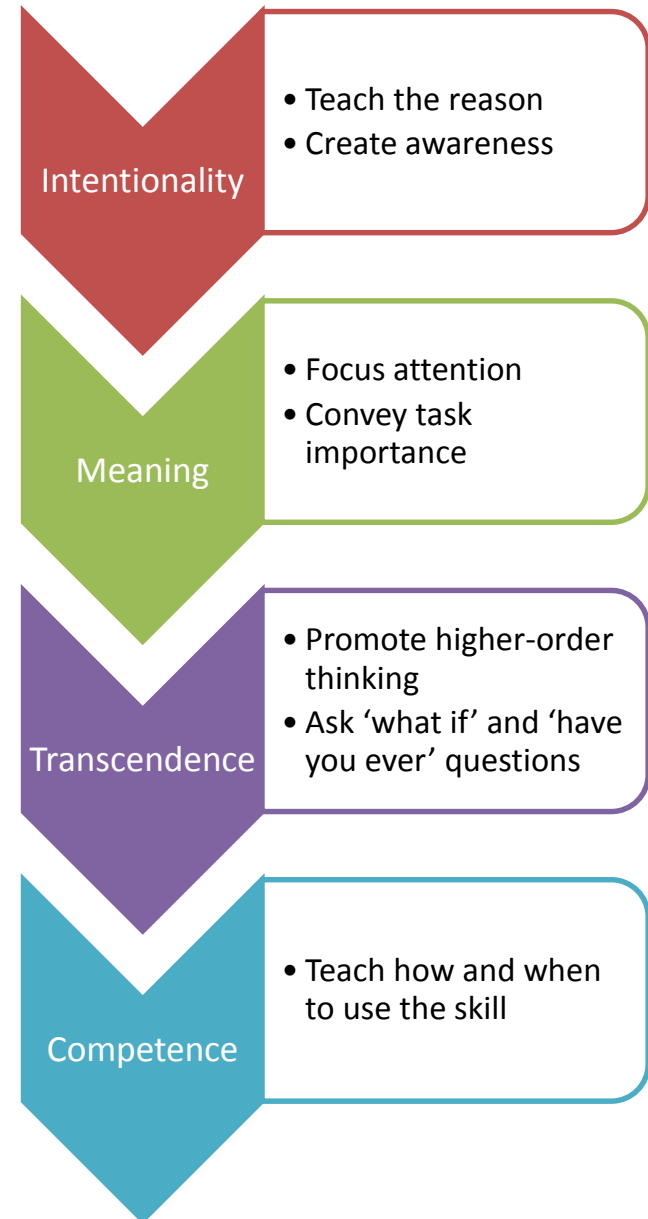
Memory

Executive Functioning
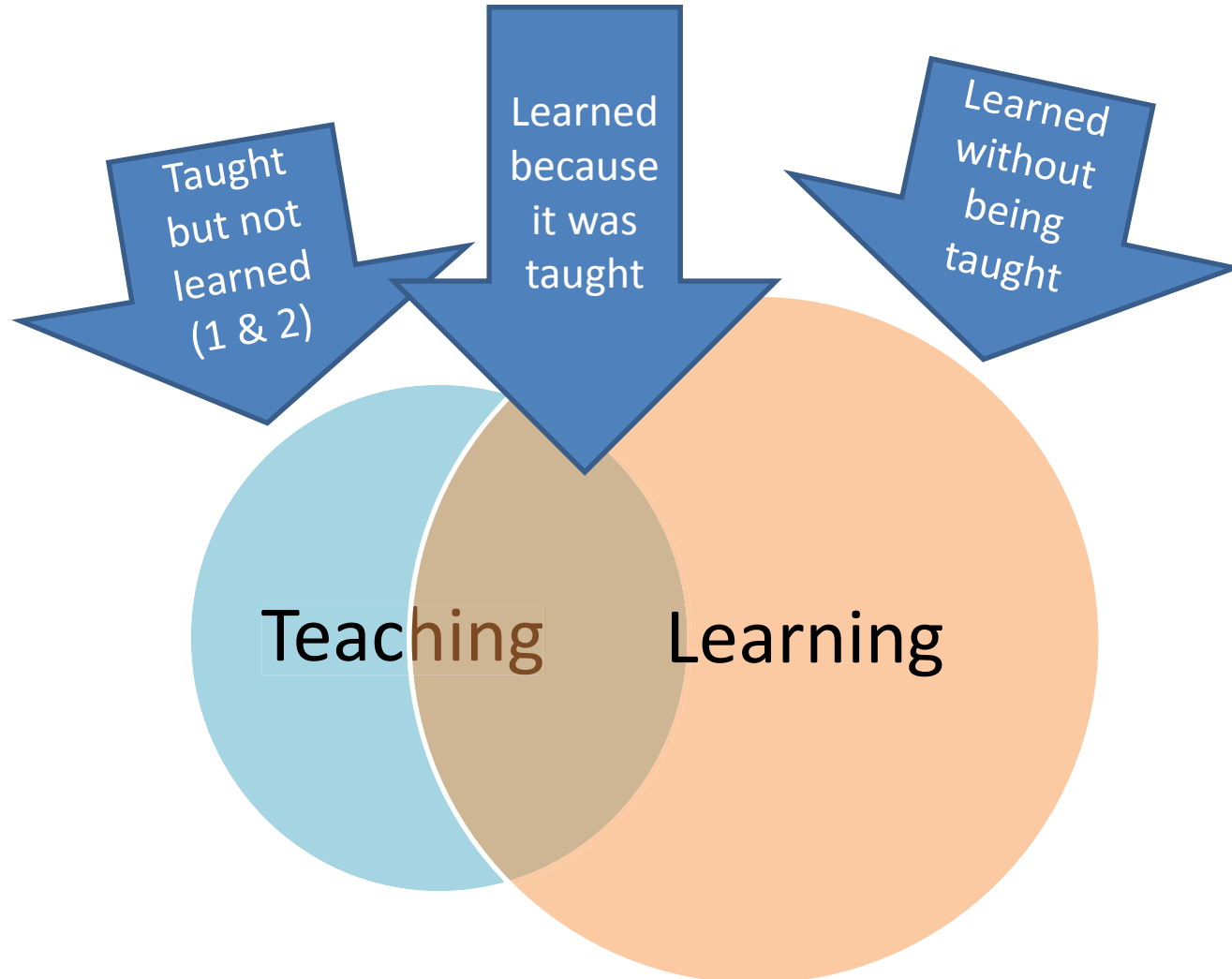
- Does my assessment include dynamic, prospective and culturally sensitive elements what will inform a *Learning* Profile?

  - "There is little use in assessing for the sake of assessment; assessment should be carried out for the sake of selecting or modifying intervention." (Grigorenko 2009 p. 3).

  - Multidisciplinary teams should be focussed not on the snapshot of '*now*', - as it is impossible to separate intrinsic and extrinsic barriers to development, but what should be *'next',* assuming that dyspedagogia will be minimised.

  - Given that children brought up in disparate cultural conditions often have diverse developmental experiences consider whether conventional 'static' (un-scaffolded) assessments capture the 'true' ability level

Grigorenko, E. L. (2009). Dynamic Assessment and Response to Intervention Two Sides of One Coin. *Journal of Learning Disabilities*, *42*(2), 111-132.

- 'Static' tests are administered without feedback or intervention until the score is given

STATIC
Passive Participant
Examiner observes
Identify Deficits
Standardised

DYNAMIC
Active Participants
Examiner participates
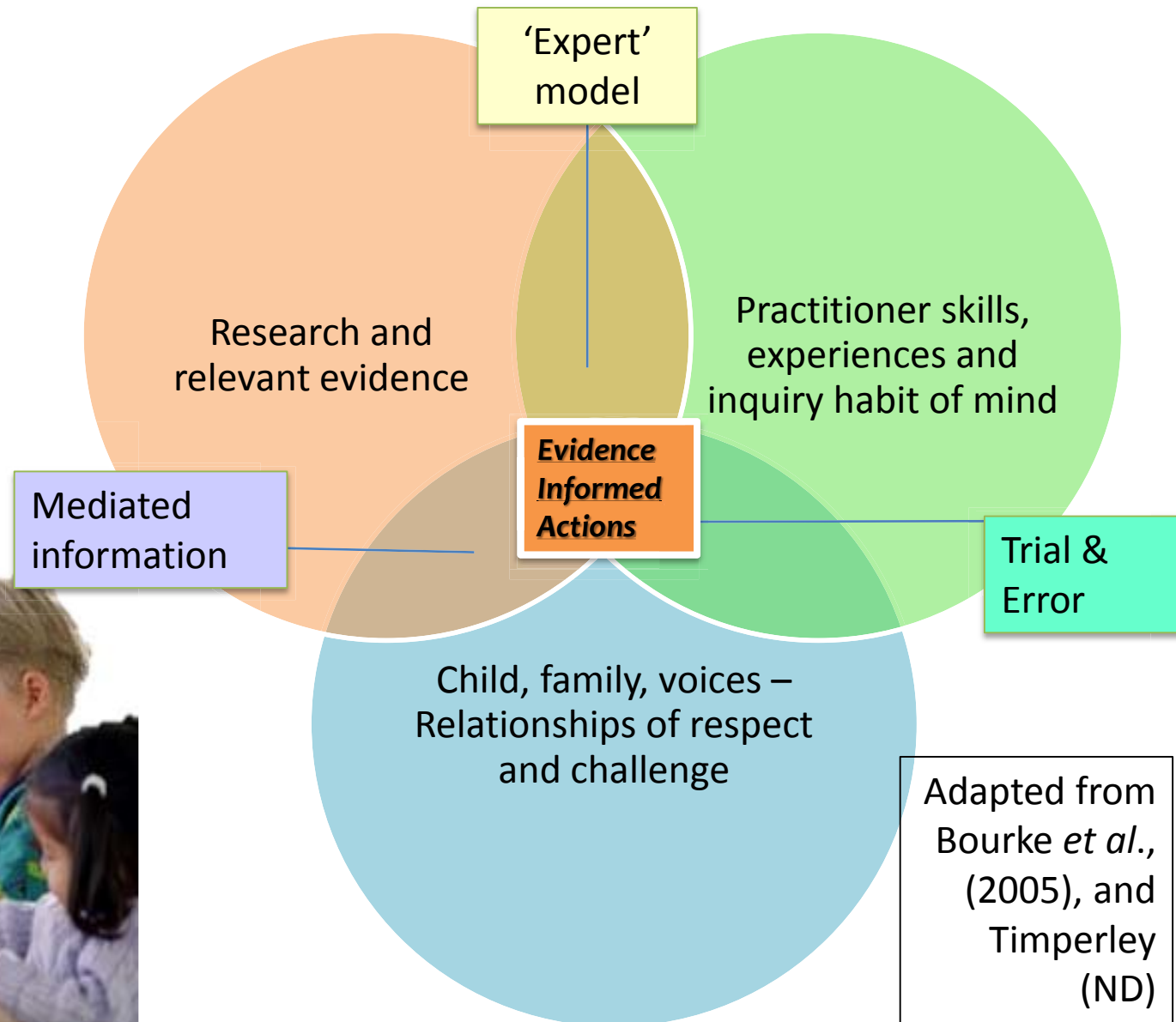Describe modifiability
Fluid responsive

- 'Dynamic' tests inform the learning profile, in particular by differentiating learning differences from learning disorders

- Pre-test
  - Assess child's current performance
- Teach
  - Using a mediated learning experience (MLE)
  - Help the child develop strategies
  - Observe the child's modifiability
- Post Test
  - Compare performance to pre-test
  - Assess transfer of strategies

Intentionality
- Teach the reason
- Create awareness

Meaning
- Focus attention
- Convey task importance

Transcendence
- Promote higher-order thinking
- Ask 'what if' and 'have you ever' questions

Competence
- Teach how and when to use the skill

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R

E

S

"The researches of many commentators have already thrown much darkness on this subject, and it is probable that if they continue we shall soon know nothing at all about it."
Mark Twain
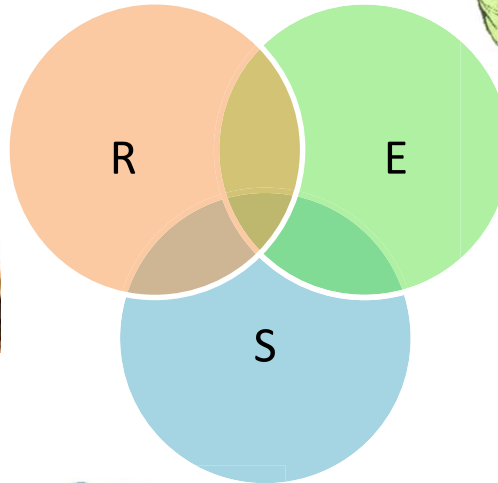
"Good judgment comes from experience. Experience comes from bad judgment."
Mulla Nasrudin (13th century Sufi sage)

"Beware of false knowledge; it is more dangerous than ignorance."
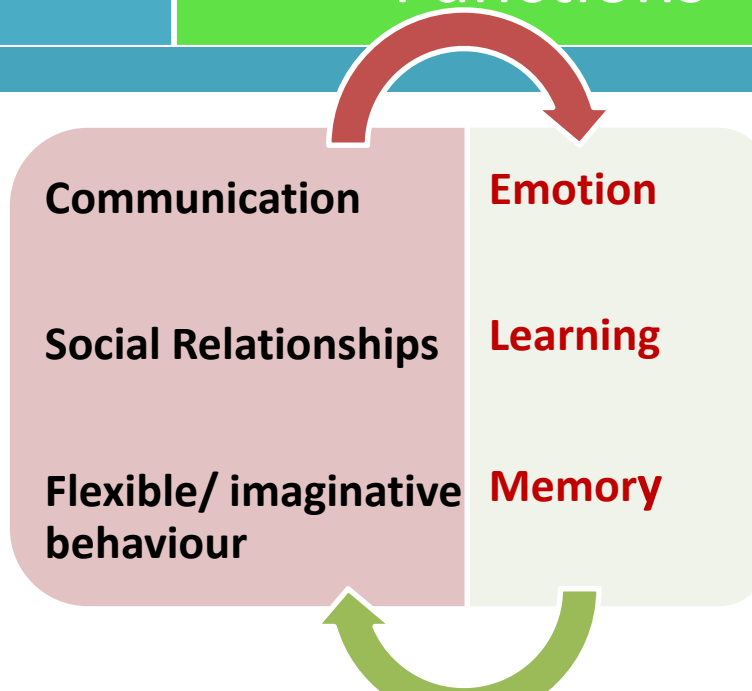**George Bernard Shaw**

Saying, seeing and exploring ideas using *metacognitive* strategies in a positive environment allows learners to:

Reduce Cognitive Load and Divided Attention	Manage Processing, Executive and Working Memory Functions	Increase Cognitive Connectivity?

Communication

Emotion

Social Relationships

Learning

Flexible/ imaginative behaviour

Memory

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S **Structure**

P **Positivity**

E **Empathy**

L **Low Arousal**

L **Links**

Siddles, R., Mills, R., & Collins, M. (1997). SPELL–the National Autistic Society approach to education. *Communication, 1*, 8-9.

- Multisensory **timetables** & **timers**

- **Achievable activities & chunks**

- **Visual** supports (EBP)

+ Most of IPSO

- **Structure** in unstructured times -**choice** boards

- **Communication**, **time to process &** **clear, precise and concrete language** .

- Consider **E**vidence **B**ased **P**ractices such as:
  TEACCH **Structured Work Sessions**

- **Strength based** approach

- **Realistic e**xpectations

- **Motivators** to ensure appropriate behaviour is continued.

- **Positive alternatives** to inappropriate behaviour.

- **Use special interests** when planning anything.

- Build **self-esteem** through **responsibility** & **contribution**

- Contribute to the development and distribution an individual **student profile**

- Consider **sensory difficulties**

- **Practice** social narratives (EBP) and social rules - **role-play** (*Social Skills Training* EBP)

- Assume behaviour is **communication**

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- Check for **distractions** individual (flickering lights etc.)

- Create TEACCH style L.A. **workstation**

- Filter out **irrelevant stimuli**

- Use **resources** (ear defenders to block out sounds when working, tangle toys, etc.)

- **Involve stakeholders** (be aware of Parent-implemented intervention - PII)

- Share information on **learning & behaviour** for **consistency**

- **Value** the student
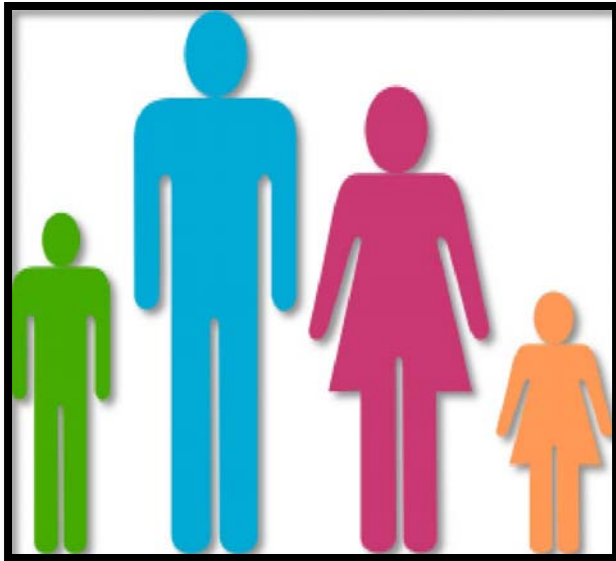
- Share information with **allied health and all professionals involved**.

- SCERTS Framework (Prizant et al 2003)

Individual strategies

1. **Video Modelling**
2. Social Stories
3. Self Management
4. Scripts

Planning universally

1. Task analysis
2. Task menu and schedule
3. Reciprocal teaching
4. **UDL**

Supporting cognition

1. Visual Supports
2. **Priming & Dual Coding**
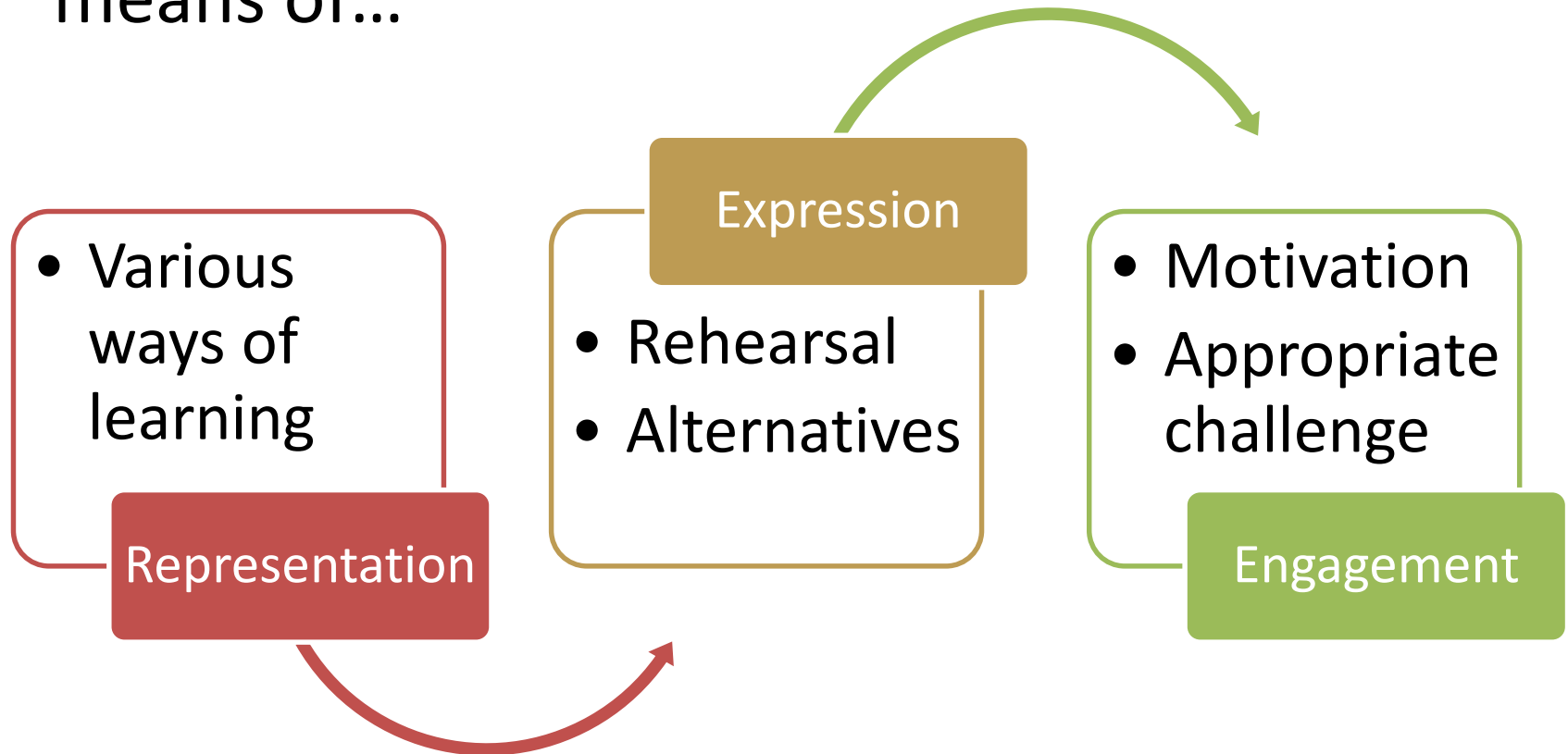3. Initiating
4. Mnemonics

Outcome focussed

1. **Functional assessment of learning environment**
2. Flexible Groupings
3. Plan for generalisation
4. Collaboration & links

Enhance social and academic skills (survival!).
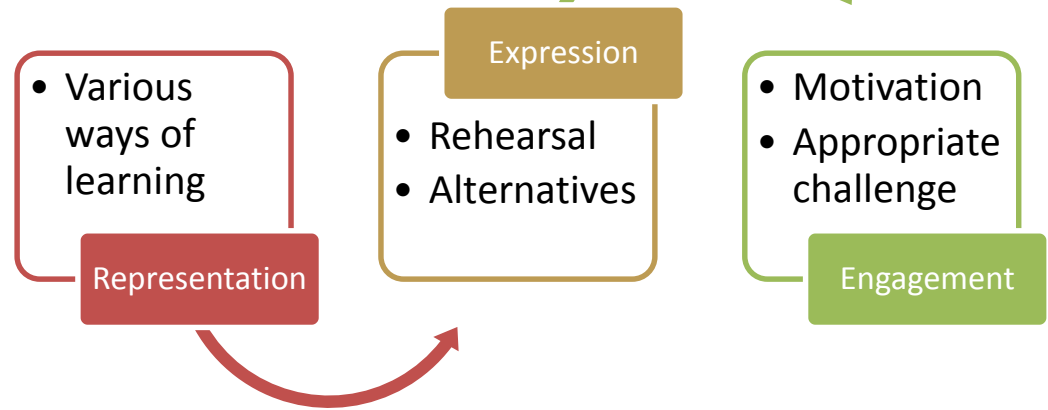Typically 3 to 5 sentences describing:

Setting → Who → Behaviour

- This is an entire pedagogy in itself…
- In a nutshell UDL teachers provide multiple means of…

Expression

- Various ways of learning

Representation

- Rehearsal
- Alternatives

- Motivation
- Appropriate challenge

Engagement

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- Various ways of learning

Representation

Expression
- Rehearsal
- Alternatives

- Motivation
- Appropriate challenge

Engagement

Permanent

Practise

Environment

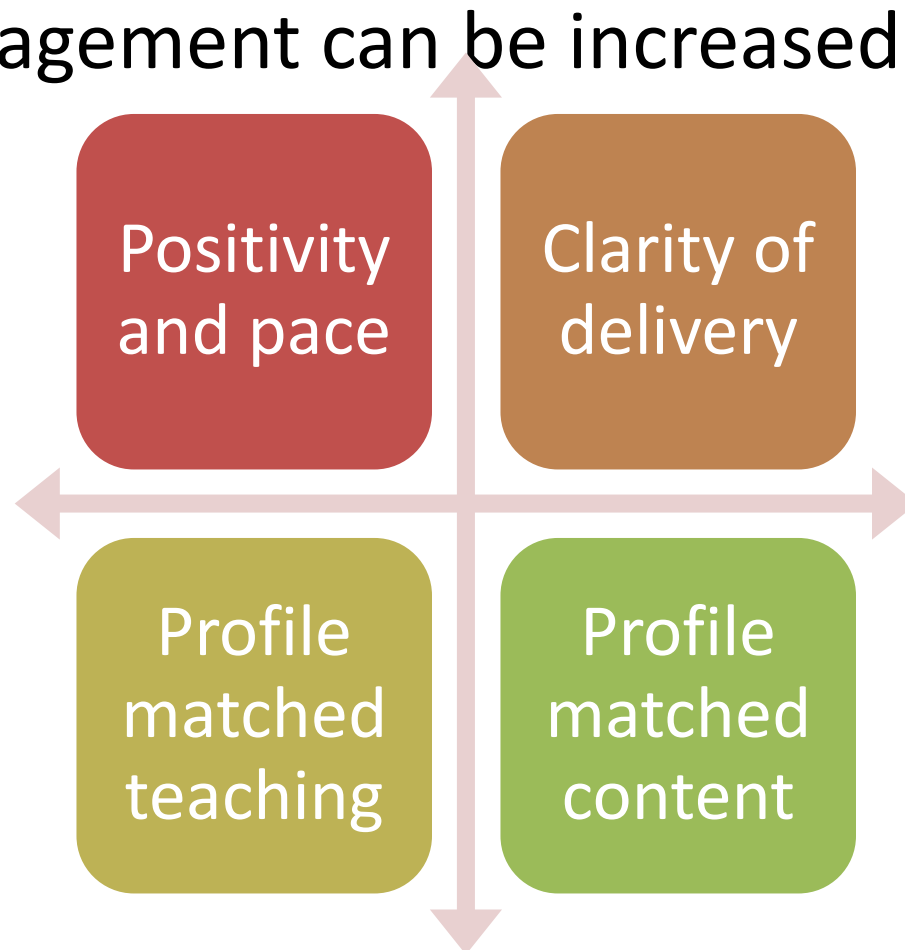Learning?

(Cap)ability

Knowledge

Behaviour

Change

Kagan's 'Rally Tables' (2008) encourage
- students responses,
- building of communication skills,
- engagement with peers,
- ownership of ideas

- Priming or 'Getting Knowledge ready' allows students to be introduced to new content and revise knowledge in a low-load way. Verbalising and visualising in a great way to initiate this process.

- Dual coding occurs when describing the pictures in one's mind, or using words to make picture in one's mind. Structured visualisation may increase comprehension in this way
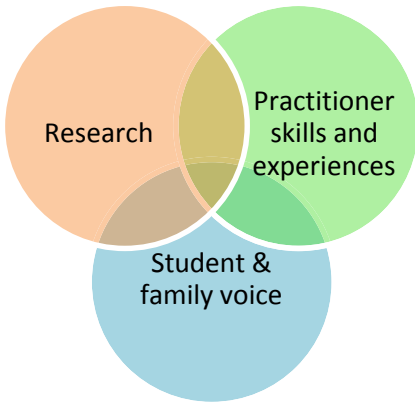
See handout

- Many learning barriers and behavioural triggers can be prevented
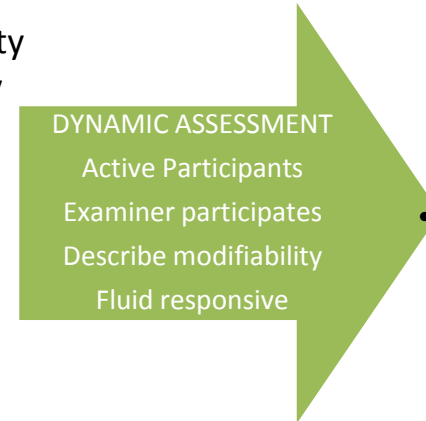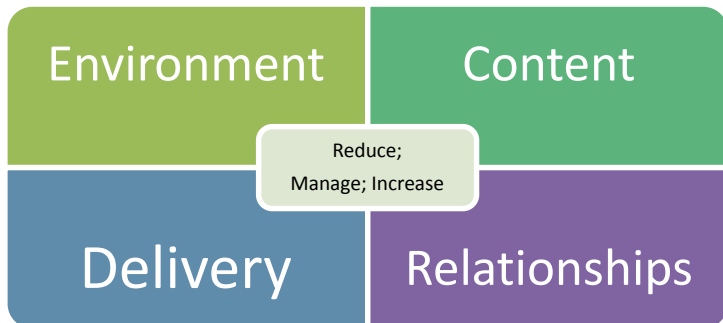- Active engagement can be increased simply by assessing:

Positivity and pace	Clarity of delivery
Profile matched teaching	Profile matched content

- Reduce, Manage, Increase

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Conclusion

Research

Practitioner skills and experiences

Student & family voice

- Diverse learners deserve high quality individualised, deliberate pedagogy via the **expert model**

DYNAMIC ASSESSMENT
Active Participants
Examiner participates
Describe modifiability
Fluid responsive

- Carry out a mixture of static and **dynamic** diagnostic testing and select appropriate Evidence Based **Interventions** to encourage diversity-friendly learning

Structure

Positivity

Empathy

Low Arousal

Links

- Advocate for your student using **SPELL** principles across multiple contexts with all student support group members

Individual Strategies

Plan Universally

Support Cognition

Outcome focussed

Environment

Content

Reduce; Manage; Increase

Delivery

Relationships

- Empower parents and enquire about the **environment**, teacher/school **disposition**, curriculum **content** and **delivery**
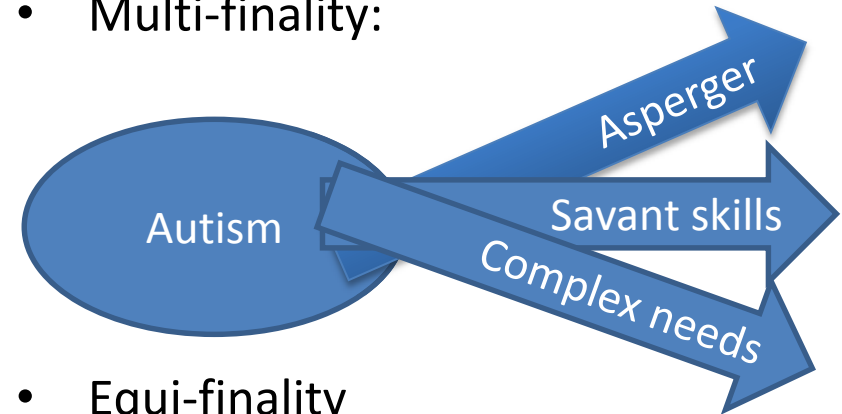- Build authentic **relationships** with team members and the learner.
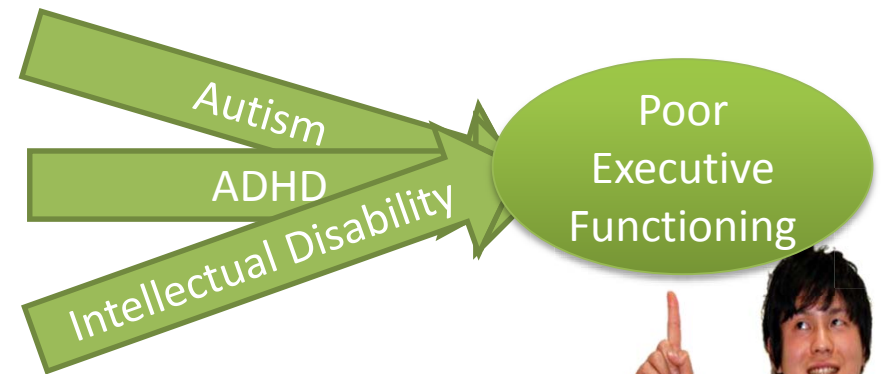
Slides I left out…

All children can learn but some may have diverse learning needs, they may have a straightforward diagnosis, may be sub-clinical or may not fit neatly into a category :
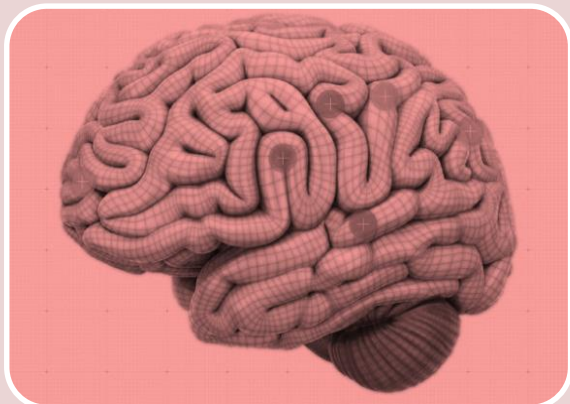
- Autism Spectrum Conditions (ASC)
- Asperger Syndrome
- Intellectual Disability
- Attention Deficits
- ADHD and Other 'Neurodevelopmental Disorders'

- Multi-finality:

Autism → Asperger / Savant skills / Complex needs

- Equi-finality

Autism / ADHD / Intellectual Disability → Poor Executive Functioning

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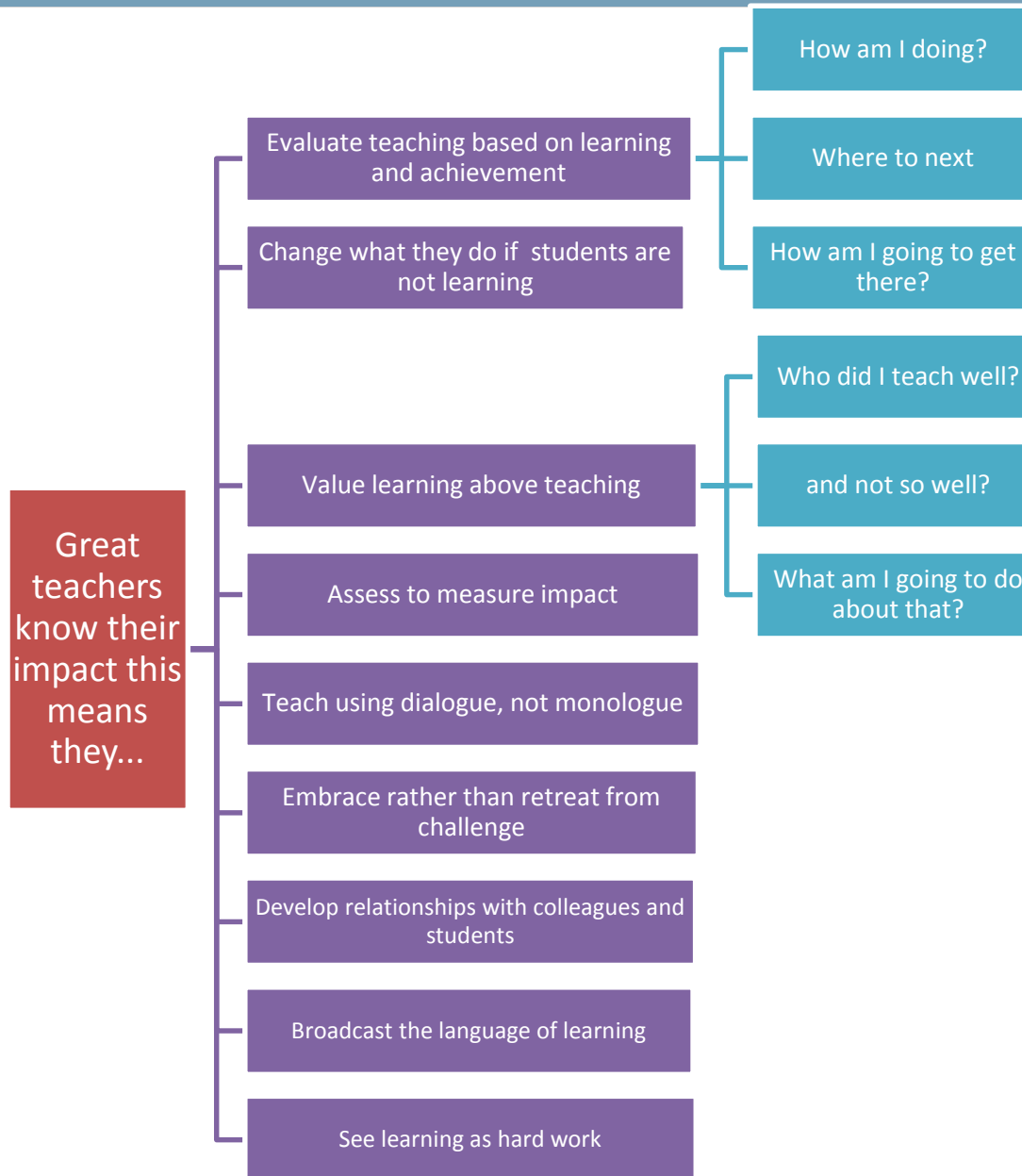

Intensive intervention capitalises on brain plasticity

Positive social engagement/ arousal modulation addresses core deficits

Thematic multi-sensory & mulit-domain teaching promotes brain network connectivity

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Great teachers know their impact this means they...

- Evaluate teaching based on learning and achievement
  - How am I doing?
  - Where to next
  - How am I going to get there?
- Change what they do if students are not learning
- Value learning above teaching
  - Who did I teach well?
  - and not so well?
  - What am I going to do about that?
- Assess to measure impact
- Teach using dialogue, not monologue
- Embrace rather than retreat from challenge
- Develop relationships with colleagues and students
- Broadcast the language of learning
- See learning as hard work

Lowers cognitive load (extraneous social cuing) allowing target behaviour to be isolated.

Reduce dependence on teacher or LSO.

Increase independence and generalisation:

Identify → Record → Reward

See checklist

Used to initiate or sustain social and academic interaction immediately. These questions or statements increase scripted and non-scripted communication
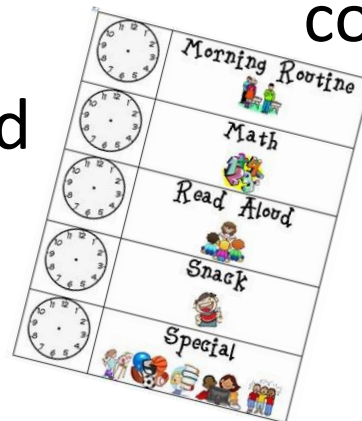
Individual need

Content appropriate

Plan to fade

Breaking information into discreet steps reduces 'parts to whole' problems with mental representations. These are called 'learner actions' and can be mastered *individually* or in *sets* depending on difficulty.

- 1 • Grab toothbrush
- 2 • Grab toothpaste
- 3 • Open toothpaste
- 4 • Put toothpaste on toothbrush
- 5 • Brush teeth
- 6 • Spit
- 7 • Rinse
- 8 • Put items away

Task analysis and the following 'P' can be effective for learners with weak central coherence, working memory and executive functioning difficulties

- **Task Menus** increase on-task actions and decrease inappropriate behaviour:

- The menu of choices allows students to select which order they carry out preferred and non-preferred tasks

- Know the favoured activities

- **Activity Schedules** are 'to do…' lists designed to decrease verbal prompts and increase independence.

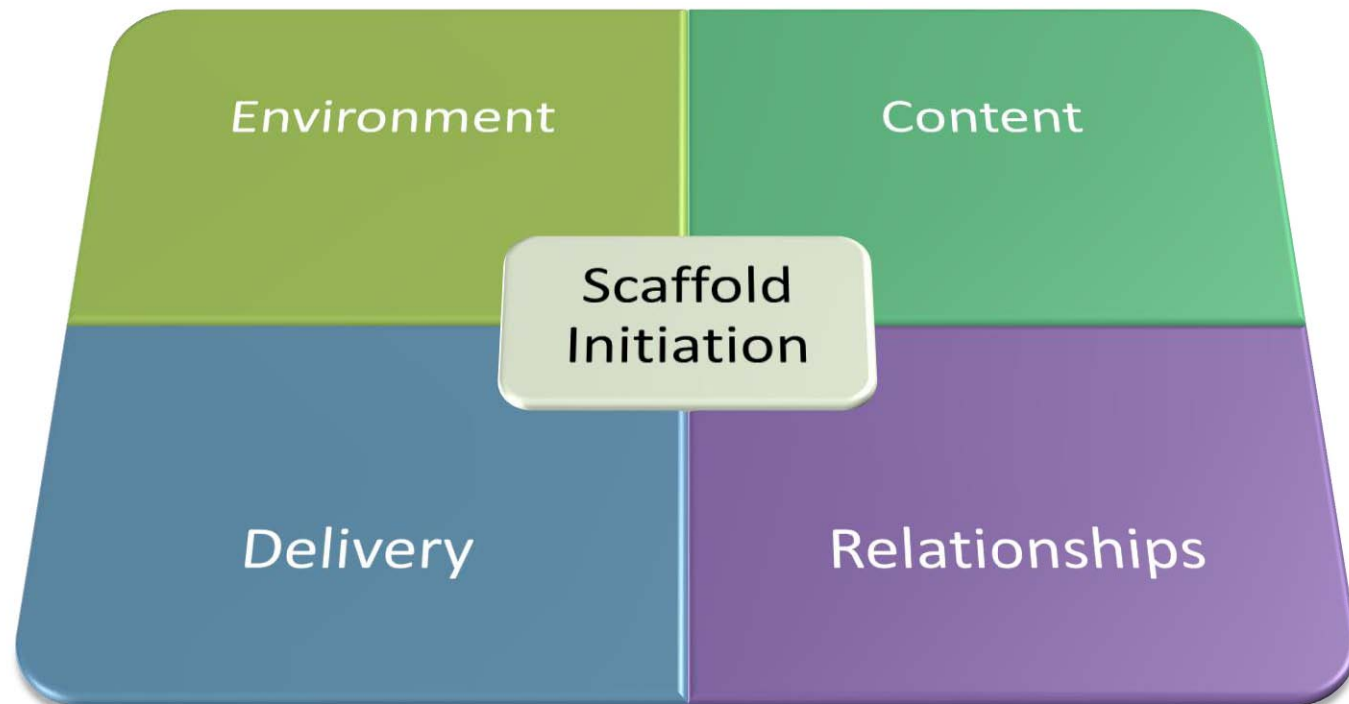- They can incorporate the task menu, be written, image based, colour coded or photo boards.

Morning Routine
Math
Read Aloud
Snack
Special

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Planning universally for diversity
Reciprocal teaching

- Also called '*planned* activity routines'; interactive roles where teachers and students take turns questioning, summarizing, clarifying and HOTS-ing (predicting, inferring etc.)

- If this becomes routine, it encourages participation, interaction and independence.

- Will need high scaffolding to begin with.

- **Visual Cues** for comprehension enable learners to increase:
  - Attention
  - Expectation knowledge
  - Participation
- They also support;
  - Memory (WM & LTM)
  - Executive functioning (EF)

- **Graphic Organisers** for key ideas depict concrete links between ideas. Selecting and organising in this way supports EF, WCC memory and conceptual understanding
- See handout

- Students taught to 'socially initiate' encourages reciprocal communication. This inturn reinforces appropriate use of language. Engineering the:

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- Designed to felicitate recall and memory Mnemonic strategies can be employed from basic to complex content, keeping the strategy he same.

Acronym

Visuals

Key words

- Multiple grouping strategies are important for inclusion. These can include:
    1. Cooperative learning groups
    2. Class-wide peer tutoring
    3. Small group peer tutoring
    4. Etc…

- These allow neurodiverse students to participate more autonomously

- Planning for generalisation can be tricky

- Vary the:
  - **Setting** –multiple contexts and times of day
  - **Materials** –varied and realistic
  - **People** –A variety of individuals must be used for practice!
  - **Prompts** –Alter the instructions

- **Involve parents and student**

- Share information on **learning & behaviour** for **consistency**

- Share information with **Teachers, LSOs and allied health**.

S Structure

P Positivity

E Empathy

L Low Arousal

L Links

Siddles, R., Mills, R., & Collins, M. (1997). SPELL–the National Autistic Society approach to education. *Communication, 1*, 8-9.

The PESICO approach

Person
- Relevant for the student?
- Strengths and weaknesses

Environment
- Where will 'intervention' take place? Universal, Specialist? Targeted?
- Intensity & Fidelity of Implementation factors

Stakeholders
- Student priorities?
- Family and school priorities?

Intervention
- Research validated program?
- Evidence informed strategies?

Comparison
- Research design? Multiple baselines? Observational or analytical?
- Screening, assessment, testing, data, control group, effect size?

Outcomes
- Defined?, measured? accomplished, adjustable?
- SMART – Specific, Measurable, Attainable and Relevant, Time-bound

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Person
- Jonny will

Environment
- In the mainstream classroom and with minimal prompting

Stakeholders
- Alternate from a preferred task to a non-preferred task when asked to do so by his teacher

Intervention
- 80% (Mastery Level) of the time on 4 out of 5 trials without prompting
- As documented in his progress book

Comparison
- As documented in his progress book

Outcomes
- By December 2015

Outcome Timing – Person – Environment - Stakeholder informed Intervention – Comparison

O-PESIC