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Pupils with Intellectual Disabilities

## Cognitive Functioning

Cognitive Functioning

Classroom-based tips (focus on instructional methods)

The strategies below can be used for developing pupils' cognitive functioning:

1. Enhancing memory

- Use strategies that are based on pupils' strengths in visual patterns, including the use of visual organisers. These can be used to compare and contrast two related aspects and help to enhance memory as part of developing pupils' cognitive functioning, as in the Venn diagram, which compares mammals and reptiles. In this Venn diagram, the information in the centre illustrates the similarities between mammals and reptiles. (Source: http://www.ldonline.org/article/5736/)

A Venn diagram comparing mammals and reptiles:
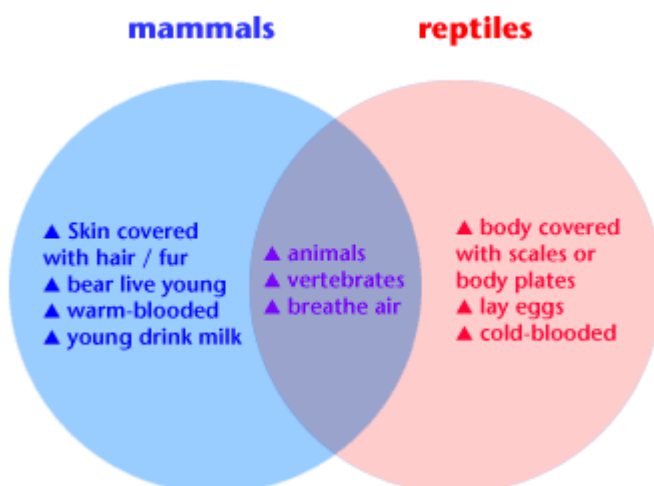
- Teach mnemonics to enhance memory. For example, 'My Very Easy Method Just Speeds Up Naming Planets' helps to remember the planets in order: Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune, Pluto.
- Bear in mind that not all pupils are visual learners. Include other learning resources such as audio materials for pupils to listen to the concepts, or other materials to provide tactile learning opportunities.

2. Improving learning rate:
Teach your pupils to 'go fast' and improve their learning rates with these techniques:

- **Use repeated reading:** the pupil orally reads the same passage, usually three to five times during each session. With each successive reading, the pupil tries to increase the number of words read correctly per minute. The pupil first listens to the teacher, who models reading the passage; the pupil may read the passage silently, before beginning; and the teacher provides feedback and practice on missed words and phrases. When the pupil achieves the fluency criterion on a given passage, the

teacher introduces a new passage. The difficulty level of successive passages gradually increases over time. The set goal is slightly higher than the current reading rate.

- **Using time trials:** Give pupils the opportunity to perform a skill as many times as they can in a brief period—time trials—in order to build fluency. Practice in the form of 1-minute time trials helps pupils with and without disabilities achieve fluency with a wide range of academic, vocational, and other skills (e.g., Beck, Conrad, & Anderson, 2010; Codding, Burns, & Lukito, 2011; Smith, Marchand-Martella, & Martella, 2011).

- **Use 'Say All Fast a Minute Each Day Shuffled'** (SAFMEDS). SAFMEDS consist of a deck of cards with a question, vocabulary term, or problem on one side of each card and the answer on the other side. A pupil answers as many items in the deck as s/he can during one minute. The pupil looks at the question or problem, states the answer, flips the card over to reveal the correct answer, and puts the card on either a "correct" or "incorrect" pile.
  [Reference: Eshleman, J. (2000). *SAFMEDS on the web: Guidelines and considerations for SAFMEDS* .
  http://standardcelerationcharttopics.pbworks.com/w/page/15573489/SAFMEDSon-the-Web]

3. Improve Attention:
Simplify an assignment and focus your pupil's attention on a particular guideline. For example, break the assignment into smaller tasks. Increase the complexity and difficulty of the task gradually. At the beginning, you can use assignments related to pupils' interests. Pupil's selective and sustained attention to relevant stimuli will improve as they succeed (Huguenin, 2000).

4. For generalisation and maintenance:

- Build on your pupils' previous knowledge and make connections with new concepts. Ask pupils to present the newly acquired information to their peers and think of general future applications.
- Use the RAFT approach (Santa, 1998), to differentiate the content for pupils with varying academic skills and knowledge levels.

RAFT is defined as follows:

R: Assume a Role. Who are you as the writer?
A: Consider your Audience. To whom are you writing? Who will be reading?
F: Write in a particular Format. What type of writing will you be doing?
T: Examine a Topic from a relevant perspective. What is the subject or point of your writing?

5. Motivation

- Provide your pupils with positive feedback about the task: you can use a rubric for explicit feedback or comments in a written form for implicit feedback. Ask

your pupils to give more information. (Brophy, 2010).

➔ Keep in mind that the feedback that teachers give to pupils and the way it is presented is a very important source of self-efficacy. (Klassen & Lynch, 2007 in https://www.rivier.edu/journal/ROAJ-Fall-2013/J783-Bergen.pdf).

- Be aware of the support you offer in the classroom, as the way you approach the pupils can have a positive or negative impact; be positive and inclusive. (Klassen & Lynch, 2007) Available at: (https://www.rivier.edu/journal/ROAJ-Fall-2013/J783-Bergen.pdf)

- Make your lessons and activities interesting and engaging for your pupils. (Brophy, 2010)

School-based practical tips (focus on instructional methods)

Community

Arrange regular meetings between the parents and the staff to discuss pupil progress and to enhance home-school collaboration. This will help to monitor progress and to discuss other areas such as social skills, interactions with peers and adults within the school setting, marginalisation, behaviour at home and self-esteem. (McCaleb, 2013)

Class Divisions / Arrangements

1. **Ask teachers to keep a progress log regarding specific pupils with learning differences.** Arrange meetings between teachers and parents to discuss pupils' progress, and design activities and intervention to support them. If needed, re-organise the school schedule to allow more time for co-teaching activities (Hoppey, & McLeskey, 2013)

2. **Equip the school with tablets and computers to enable teachers to use technology to motivate and engage their pupils.** Build on pupils' confidence in using everyday technology such as mobiles and tablets to enhance their motivation and self-efficacy beliefs.

Curricular Adaptations

1. **Ask teachers to keep a progress log regarding specific pupils with learning differences.** Arrange meetings between teachers and parents to discuss pupils' progress, and design activities and intervention to support them. If needed, re-organise the school schedule to allow more time for co-teaching activities (Hoppey, & McLeskey, 2013)

2. **Equip the school with tablets and computers to enable teachers to use technology to motivate and engage their pupils.** Build on pupils' confidence in using everyday technology

such as mobiles and tablets to enhance their motivation and self-efficacy beliefs.

3. **Work with teachers to make curricular adaptations** in terms of differentiating to the task. (Hall, Meyer and Rose, 2012; BBC active, 2010).

4. **Make curricular adaptations in terms of resources** – where possible equip the classrooms in which there are learners with cognitive difficulties with different materials and advanced technology, such as tablets or projectors, so as to attain a single learning outcome.

5. **Include pupils' varied talents and interests in school events** by finding alternative ways with which they can participate, differentiating their role and contribution in an event.

Discipline

Include pupils' varied talents and interests in school events by finding alternative ways with which they can participate, differentiating their role and contribution in an event.

Educational Visits / Field Trips / Camps / School Exchanges / Trips Abroad

Assign responsible individuals to accompany and direct pupils with cognitive differences, for example when they need to cross the street during a school trip. Pupils with intellectual disabilities tend to have difficulties in coordination, directionality and orientation.

Other (Assessment)

Ask teachers to keep a progress log regarding specific pupils with learning differences. Arrange meetings between teachers and parents to discuss pupils' progress, and design activities and intervention to support them. If needed, re-organise the school schedule to allow more time for co-teaching activities (Hoppey, & McLeskey, 2013)

Parents / Parents' Associations

1. **Arrange regular meetings between the parents and the staff to discuss pupil progress and to enhance home-school collaboration.** This will help to monitor progress and to discuss other areas such as social skills, interactions with peers and adults within the school setting, marginalisation, behaviour at home and self-esteem. (McCaleb, 2013)

2. **Include pupils' varied talents and interests in school events** by finding alternative ways with which they can participate, differentiating their role and contribution in an event.

Safety

Assign responsible individuals to accompany and direct pupils with cognitive differences, for example when they need to cross the street during a school trip. Pupils with intellectual disabilities tend to have difficulties in coordination, directionality and orientation.

School Celebrations / Events / Activities

Include pupils' varied talents and interests in school events by finding alternative ways with which they can participate, differentiating their role and contribution in an event.

School Purchases

1. **Equip the school with tablets and computers to enable teachers to use technology to motivate and engage their pupils.** Build on pupils' confidence in using everyday technology such as mobiles and tablets to enhance their motivation and self-efficacy beliefs.

2. **Make curricular adaptations in terms of resources** – where possible equip the classrooms in which there are learners with cognitive difficulties with different materials and advanced technology, such as tablets or projectors, so as to attain a single learning outcome.

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Pupil Support

1. **Include pupils' varied talents and interests in school events** by finding alternative ways with which they can participate, differentiating their role and contribution in an event.

2. **Ensure that additional classroom support such as a teaching assistant is provided** to these pupils (BDA, 2012).

Teacher Professional Development

1. **Organise university events/trainings for teachers and pupils.** (Ainscow, Booth & Dyson, 2004). Working with academics in this context will acquaint teachers with new materials and practices, which they can apply with their pupils (e.g.training on the use of visual organisers and timetables within the classroom and school, and on problem-solving strategies).

2. **Equip the school with tablets and computers to enable teachers to use technology to motivate and engage their pupils.** Build on pupils' confidence in using everyday technology such as mobiles and tablets to enhance their motivation and self-efficacy beliefs.

Technology

1. **Equip the school with tablets and computers to enable teachers to use technology to motivate and engage their pupils.** Build on pupils' confidence in using everyday technology such as mobiles and tablets to enhance their motivation and self-efficacy beliefs.

2. **Make curricular adaptations in terms of resources** – where possible equip the classrooms in

which there are learners with cognitive difficulties with different materials and advanced technology, such as tablets or projectors, so as to attain a single learning outcome.

Timetabling

Ask teachers to keep a progress log regarding specific pupils with learning differences. Arrange meetings between teachers and parents to discuss pupils' progress, and design activities and intervention to support them. If needed, re-organise the school schedule to allow more time for co-teaching activities (Hoppey, & McLeskey, 2013)

Supportive Literature

Definition: Deficits in cognitive functioning and learning characteristics of individuals with intellectual disabilities include poor memory, slow learning rates, attention problems, difficulty generalising what they have learned, and lack of motivation (Heward, 2013)

Memory, Learning Rate, Attention, Generalisation and Maintenance, Motivation

- Pupils with intellectual disabilities have difficulty remembering information (Carlin et al., 2003).
- Children with intellectual disabilities take a longer time to automatically recall information and therefore have more difficulty handling larger amounts of cognitive information at one time when compared to same age peers without intellectual disabilities (Bergeron & Floyd, 2006).
- The rate at which children with intellectual disabilities acquire new knowledge and skills is well below that of typically developing children. A frequently used measure of learning rate is *trials to criterion* — the number of practice or instructional trials needed before a pupil can respond correctly without prompts or assistance. For example, while 2 or 3 trials with feedback may be required for a typically developing child to learn to discriminate between two geometric forms, a child with intellectual disabilities may need 20 to 30 or more trials to learn the same discrimination.
- Efficient learners attend to critical features of a task (e.g., to the outline of geometric shapes instead of other factors such as their colour or position on the page). Pupils with intellectual disabilities are typically need longer to attend to relevant features of a learning task (Merrill, 2005) and may focus on distracting irrelevant stimuli instead (Carlin, Chrysler, & Sullivan, 2007; Dickson, Deutsch, Wang, & Dube, 2006). In addition, individuals with intellectual disabilities often have difficulty sustaining attention to learning tasks (Tomporowski & Hagler, 1992). These attention problems compound and contribute to a pupil's difficulties in acquiring, remembering, and generalising new knowledge and skills.

[Reference: Heward, W. L. (2013). *Exceptional children: An introduction to special education*. Pearson College Div.]

Websites and EU Reports
http://www.disabled-world.com/disability/types/cognitive/

Methods of Differentiation in classrooms
http://www.bbcactive.com/BBCActiveIdeasandResources/MethodsofDifferentiationintheClassroom.aspx

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