Cognitive and Learning Difficulties- Lecture 2

Dr Paul O'Callaghan BSc, HDipEd, Bacc (Phil), DECAP
Educational Psychologist & Honorary Research Fellow
Southern Education & Library Board, EPS
Queen's University, Belfast

Opening Task: Special Needs Numbers

- 12 Categories of Special Needs
- 3 Theoretical Perspectives on Special Needs
- 2 Main Approaches/Responses to Special Needs
- 9 Groups of People that Identify Special Needs
- 3 Approaches to Assessing/Identifying Special Needs

DVD - Clip

- Watch the video and record the names of the people mentioned and their contribution to IQ testing

Outline of Introduction to Cognitive and Learning Difficulties

- Definition of Cognitive and Learning Difficulties
- Types of Learning Difficulties
- What is Intelligence?
- Theories of Intelligence
- Intelligence and Learning Ability
- Moderate Learning Difficulties
- Severe Learning Difficulties
- Dyslexia

Definition of Cognitive and Learning Difficulties

- "learning difficulties are present when a child has significantly greater difficulty in learning than the majority of children his/her age" (Frederickson & Cline, 2009)
- Point 1: 5 developmental dimensions
- Point 2: general versus specific learning difficulties

Types of Learning Difficulties

- General Learning Difficulties: "general learning difficulties are learning difficulties which affect all aspects of children's learning at school or all aspects of their development" (Frederickson & Cline, 2009)
- E.G.: Moderate LD, Severe LD, Profound & Multiple LD
- Specific Learning Difficulties: "specific learning difficulties indicate that pupils have differences across learning e.g. pupils may have a particular difficulty in learning to read, write, spell, manipulate numbers and is lower than their performance in other areas" (Frederickson and Cline, 2009)
- E.G.: Dyslexia, Dyscalculia, Dyspraxia

Recap: Types of Learning Difficulties

General Learning Difficulties
e.g. Moderate Learning Difficulties,
Severe Learning Difficulties,
Profound & Multiple Learning Difficulties

Specific Learning Difficulties
e.g. Dyslexia,
Language Disorders
Attention Deficit Hyperactivity Disorder

Oakridge School for Severe, Multiple and Profound Learning Difficulties

What is Intelligence?

- **Think**: of a person you know who is 'intelligent'. If you had to explain why you think they are intelligent, what reason would you give? Write down three attributes.
- **Compare**: going beyond the facts, seeing connections between ideas, seeing patterns, applying concepts to new contexts, thinking logically, applying knowledge, demonstrating deep understanding of concepts (Adey et al., 2007) – Teacher's definitions of intelligent pupils
- **Discuss**: Did you answers overlap with this list? What did you add? What did you omit?

Intelligence

- Intelligence is…
- the ability to think abstractly (Terman, 1921)
- the global ability to act purposefully, think rationally & deal effectively with the environment (Wechsler, 1944)
- innate, cognitive ability (Burt, 1957)
- Multiple Intelligences: the ability to solve problems, or create products that are valued within a cultural setting (Gardner, 1993)

- Question: why the difference in the three definitions?
- Debate: are football skills really a form of intelligence?

Intelligence & Learning Ability

- Terms: intelligence (IQ) = learning abilities = cognitive skills = thinking and reasoning ability
- Tested using an intelligence scale test e.g. Wechsler

Proponents of Intelligence Scales	Opponents of Intelligence Scales
Reasonably reliable & stable measure of general mental ability	Less reliable and stable than proponents claim
Useful to screen for areas of weakness in thinking & information processing	Biased against people from different cultural or social backgrounds
Provides a base index to measure future development & learning	Knowing measured IQ does not give information on how best to help

Moderate Learning Difficulties

- IQ range: 50-69
- Cause: genetic, perinatal, postnatal, environment, idiopathic
- Largest single group with special needs statements in the UK
- **Children whose needs will not be met by differentiation**
- Difficulty: acquiring basic literacy & numeracy skills, understanding concepts, speech and language delay, low self-esteem, poor concentration, poor social skills
- Caveat: most children with MLD are in mainstream schools (Simonoff, '06)
- Debate: should special schools teach children with MLD?

Severe Learning Difficulties

- IQ: <55/50
- Cause: genetic, perinatal, postnatal, environmental, idiopathic
- Until the 1970s children with SLD were excluded from the education system & under the responsibility of health
- Intellectual Functioning + Adaptive Behaviour deficits
- Debate: assumption of 'within' child deficits
- Quote: the term 'learning difficulties' or 'special needs' gives the impression that there is a special group of children with a set of limitations that are innate and determined by factors outside a teachers' control'

Dyslexia

- Dyslexia is a learning difficulty primarily affecting one's ability to accurately and fluently read words and spell
- Includes difficulties in phonological awareness, verbal short-term memory & verbal processing speed (i.e. rapid naming)
- Occurs across the range of intellectual abilities
- A continuum, not a distinct category, no clear cut-off points.
- Co-morbid: co-ordination, mental calculation, concentration & organisation, language, but these are not dyslexia markers
- Severity & persistence of difficulties gained by examining how one responds or has responded to well founded intervention

Dyslexia

Closing Task: Discussion

- Topic: how are the needs of children with Moderate & Severe Learning Difficulties met in Kenyan schools?

Cognitive & Learning Difficulties – Assessment - Lecture 2

Dr Paul O'Callaghan BSc, HDipEd, Bacc (Phil), DECAP
Educational Psychologist & Honorary Research Fellow
Southern Education & Library Board, EPS
Queen's University, Belfast

Opening Task: Matching Task

1. God
2. Chinese Emperors
3. Sir Francis Galton
4. Alfred Binet
5. Lewis Terman
6. David Wechsler

a. First intelligence test
b. IQ = MA/CA x 100
c. Non-verbal IQ tests
d. Ability to follow simple instructions
e. Test for civil servants
f. Role of hereditary factors in intelligence

Outline of Assessment of Cognitive and Learning Difficulties

- Steps in Identifying General Learning Difficulties
- Tests & Measures used to Identify General Learning Difficulties
- Assessment of Specific Learning Difficulties/Dyslexia
- Task: Measure your own IQ
- Debates and Controversies

Steps in Identifying General Learning Difficulties

- Step 1: parents, school or medical doctor raise concerns
- Step 2: Psychologist clarifies concerns raises
- Step 3: Psychologist observed the child in school
- Step 4: Psychologist carries out a psychological assessment using a recognised scale of intelligence e.g. Wechsler Intelligence Scale of Intelligence for Children (WISC-IV)
- Step 5: Psychologist interviews parents & professionals who work with child e.g. speech & language therapist
- Step 6: Psychologist writes report recommending a suitable placement and strategies to help overcome difficulties

Tests & Measures used to Identify General Learning Difficulties

Wechsler Abbreviated Scale of Intelligence WASI-II

Wechsler Intelligence Scale for Children WISC-IV

Wechsler Pre-School & Primary Scale of Intelligence WPPSI-III

Tests & Measures used to Identify General Learning Difficulties

Questionnaires and Checklists of Adaptive Behaviour

Assessment of Specific Learning Difficulties/Dyslexia

- Core: phonological awareness – sound processing e.g. blending sounds (c+a+t = cat) & segmenting (cat = c/a/t)
- Phonics: knowledge of how sounds are represented by letters e.g. decoding/encoding. Poor phonological awareness = poor phonics
- Modified by: poor rapid naming ability, poor verbal WM
- Tell-Tale Signs: rotations, shape reversals, word-finding problems, poor personal organisation (WM problems)
- Failure to respond to intervention: structured, sequential, multi-sensory, cumulative, repetitive intervention

Task – Measure your own IQ

Q. 1 Which of these animals is least like the others:
(a) Dog (b) Mouse (c) Lion (d) Snake (e) Elephant

Q.2 Which number comes next in the series: 1 – 1 – 2 – 3 – 5 – 8 – 13:
(a) 8 (b) 13 (c) 21 (d) 26 (e) 31

Q. 3 Which choice make the best comparison? PEACH is to HCAEP as 46251 is to:
25641 (b) 26451 (c) 12654 (d) 51462 (e) 15264

Q. 4 Which one of the five choices makes the best comparison? Finger is to Hand as Leaf is to:
Twig (b) Tree (c) Branch (d) Blossom (e) Bark

Task: Measure Your Own Phonological Ability

- Adapted from Dyslexia Portfolio – Martin Turner (2008)

- Say 'Hedgehog' _____ Say it again but don't say '-hog'
- Say 'March' _____ Say it again but don't say '-ch'
- Say 'Seem' _____ Say it again but don't say '-m'
- Say 'Ransack' _____ Say it again but don't say '-s'
- Say 'Mettle' _____ Say it again but don't say '-tt'

Debates & Controversies: MLD

- Special Schools for Children with MLD have higher numbers of:
- Boys
- Children aged 11
- Children of unemployed parents
- Children from families with four children
- Children with parents in unskilled occupations
- Problem: strong link between MLD & poverty
- Why?

Debates & Controversies: Dyslexia

- One of most contentious and acrimonious special needs areas
- Paradox 1: Literacy difficulties are the most studied of all the cognitive disorders yet probably have the greatest public misunderstanding of any special needs area
- Difficulties: 1) manipulating speech sounds (phonological awareness), 2) storing & manipulating verbal information (verbal Short-Term and Working Memory), 3) rapid naming (automaticity) (Bergen et al, 2001)
- Paradox 2: despite strong evidence for effectiveness of early intervention, **severe and persistent** problems are often required in order to access support

Closing Task: Adaptive Behaviour Scale

- 4 person teams
- Learners must write 1 question (on one developmental dimension) that examine the adaptive skills of a typical 6-year-old boy or girl growing up in Nairobi
- Recap: 5 Developmental Dimensions
- E.G. **Cognitive**: the child can count to 10 using their fingers to help them
- E.G. **Language**: the child knows the names of common food e.g. posho, meat, milk, sukuma wiki and rice

Cognitive & Learning Difficulties – Intervention - Lecture 3

Dr Paul O'Callaghan BSc, HDipEd, Bacc (Phil), DECAP
Educational Psychologist & Honorary Research Fellow
Southern Education & Library Board, EPS
Queen's University, Belfast

Opening Task: Revision with Multiple Choice Questions

- General learning difficulties are identified through: (a) checklists and observations alone (b) standardised tests of ability alone (c) both checklists and observations and standardised tests of ability

- Which of the following tests measures IQ in pre-school children: (a) WASI-II (b) WISC-IV (c) WPPSI-III

- Which of the following problems suggest that a child may have dyslexia: (a) poor social skills (b) poor thinking and reasoning skills (c) poor phonological awareness

Outline of Interventions to Assist Children with SEN

- Recap on definition of Learning Difficulties
- Recap on types and examples of learning difficulties
- Barriers to learning that MLD children may experience
- Interventions that work for children with MLD
- Interventions that work with children with Dyslexia
- Debates and Controversies

Recap on Types and Examples of Learning Difficulties

- Types
- Examples
- IQ range
- Measures
- Difficulties

Barriers to Learning that Children with MLD may experience

- Understanding abstract concepts (e.g. economics)
- Logical reasoning (e.g. All men go bald. John is a man....)
- Transferring and applying skills to different situations
- Fine and gross motor skills (e.g. writing, drawing, cycling)
- Personal organisation (e.g. completing homework etc.)
- Poor auditory (hearing) and visual (sight) memory
- Poor long and short term memory
- Non-compliant and oppositional behaviours
- Lack of awareness or responsibility for consequences
- Caveat: differential diagnosis: ASD, ADHD, VI, HI, Physical

Interventions that Help – Inter-personal Relationships

- **Praise and encouragement** is used frequently to build self-esteem and confidence.
- **A supportive relationship** is established with the child.
- **Understanding and empathy** are key responses to each child's individual needs
- **Focus on what the child can do** not what he/she cannot do and build on strengths.
- **Personal and social skills** are developed. These may need to be explicitly taught.

Interventions that Help - Planning

- **Assessment** is utilised to set targets and monitor progress.
- **Specific targets** address the child's particular needs.
- **Curriculum** is age-appropriate and differentiated.
- **Tasks** are within a child's capabilities and allow them to experience success.
- **Practical activities** are prepared e.g. games, role play and field trips.

Interventions that Help - Teaching

- **Differentiation** of questions and content occurs.
- **Immediate feedback** is given whenever possible.
- **Instructions** are explicit and clear and unambiguous language is used.
- **Active learning** is fostered by thinking, doing and problem solving.
- **Choices** about learning are given and time is allowed for thinking.

Interventions that Help - Communication

- **Tasks** have a clear meaning and purpose.
- **Behaviour** has clear and explicit boundaries.
- **Simple language** should be used with words repeated and meanings clarified.
- **Over-learning and repetition** opportunities are provided.
- **Home-School Communication** is real and ongoing.

Interventions that Help – Classroom Design

- **Desk layout** should maximise learning potential e.g. rows are better than groups of desks
- **Individual workspaces** allow a child to work in a distraction-free environment.
- **Routines** provide security & consistency
- **Schedules** can be prepared in pictorial/written form
- **Label** objects in the room.

Interventions that Help – Resources and Materials

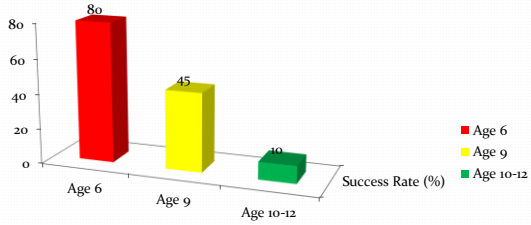
- **Wide variety of learning resources**: e.g. visual aids (charts/artefacts), concrete objects, computer software, digital cameras, scanners and accessible texts.
- **Assistive technology** e.g. computers, laptops, tablets
- **Visual clues** highlight meaning – e.g. give instructions with a written/pictorial prompt card.
- **Model or picture** of the end product so that the child knows what is expected.
- **Worksheets** minimise the amount of writing required.

Recap: Interventions to Help Children with Moderate Learning Difficulties

Interventions that Work with Children with Dyslexia

- **Structured**: know what you are teaching and why
- **Cumulative**: each teaching point builds on previous
- **Multi-sensory**: vision, hearing, movement & touch
- **Repetition**: over-learning vital for skills automation
- **Three Areas**: 1) text level reading 2) phonological awareness and 3) decoding skills
- **Delivered by**: trained specialists
- **Support**: use of information technology (e.g. computers), curriculum modifications (e.g. exemption from learning a foreign language), assessment support (extra exam time)
- **Caveat**: Programme type matters less than programme intensity

When to Help?



Percentage Success Rate in Remediating Dyslexia by Age of Intervention (Strag et al., 1972, J of Learn Disabilities)

Case Study: Educational Services for Students with Learning Difficulties in Kenya

- Mentally handicapped children are categorized according to severity of mental impairments as mildly, moderately, severely, or profoundly handicapped; or as educable, trainable, severe, and profound in terms of their measured intelligence scores on IQ tests (Kenya Ministry of Education, 1995)
- Major Cause: environmental factors e.g. early deprivation, inadequate healthcare, nutrition, adverse life conditions
- Assessment of LD in Kenya: intelligence tests
- Challenge: under-diagnosis of LD among Kenyan children
- Placement : mainstream class (often without support), units in regular education schools, special schools, residential settings

Challenges in Supporting Kenyan Students with Learning Difficulties

- Lack of personnel, material resources and placements: the majority of children with profound learning difficulties receive no educational input
- Parents: parents may think that children with profound learning difficulties are 'unlikely to benefit from' education
- Schools: can decide that some children are 'ineducable'
- Curricula: units, special schools & residential settings focus more on control & containment of pupils than on learning
- Law: required to mandate funds & enforce educational and other services for children with disabilities. Signs of Hope: Persons with Disabilities Act (2003)

Any Questions?