Cognition and Learning

For many pupils with complex needs, access to situations and events that may be considered commonplace, everyday experiences for other pupils may be restricted. They have few strategies for exploring their surroundings and therefore few opportunities for developing and testing their ideas about the nature of their environment are available.

Teaching and learning must be planned to compensate for the pupil's restriction and fragmentation of experience, also to encourage the development of cognitive processes that will enable pupils with complex needs to integrate their experiences and aid their understanding of the surroundings and society in which they live. **They need to be taught to learn.**

If pupils are to make any sense of their environment they must also attain an understanding of the concepts relating to that environment. There are three components that must be considered:

- Basic Skills
- Concept Formation
- Situational Understanding

Skill development must take place in all 3 areas for pupils to achieve some degree of autonomy in their lives.

1. Basic Skills

There are 3 particular areas of development:

- Attention Control
- Repertoire of Actions
- Learning Strategies and Skills

Attention Control

Skills include:
a) Holding a pupils attention momentarily
b) Enabling a pupil to attend selectively to a favoured item or task
c) Enabling a pupil to transfer attention from one focus to another

Repertoire of Action
Many pupils with complex needs have a restricted repertoire of physical actions which they are able to use to interact with their surroundings. This limits the amount of learning possible and it is important to increase the pupil's repertoire of appropriate actions as far as possible whilst taking into account their physical limitations. This repertoire of actions can then be used

systematically to explore the surroundings and help the pupil to learn to differentiate actions and learn to use objects appropriately and purposefully.

Learning Strategies and Skills
Pupils also need to develop more complex strategies with which to interact with their immediate surroundings:
a) Search strategies
b) Exploratory play
c) Imitation skills

Pupils can then use these strategies to explore and control their environment. If the environment is to have any meaning for the pupils then they need to be able to make sense of and interpret the information the environment contains. There are a range of skills that pupils require in order for them to be able to select information from the environment, organise the data, generalise the concepts and then begin to predict reliable outcomes. These skills are:
a) Discrimination
b) Memory
c) Association
d) Categorisation

Concept Formation

The acquisition of 5 basic concepts is vital for pupils with complex needs to be able to construct a representation of the world upon which their understanding and control of the environment can be based.
1) Object permanence
2) Cause and effect
3) Spatial and temporal relationships
4) General concepts
5) Symbolic development

Object permanence
This is a fundamental concept that needs to be taught if pupils are to appreciate that the environment exists beyond the limits of their senses and range of movement. This concept is vital for the development of symbolic communication, social attachment and conceptual development.

Cause and effect
An understanding of cause and effect is essential if pupils are to have any control over their surroundings and experiences. They need to be able to act consistently in relation to objects and situations and be able to use objects purposefully to attain a goal. Pupils need to associate actions with consequences and so move from unintentional, random movements to intentional movements or actions. This will allow the pupil to repeat actions or to initiate the actions of someone else.

Spatial and temporal relationships
Knowledge of the relationships between people and objects within the environment can be acquired through planned and purposeful interactions between the pupil and his/her surroundings.

General Concepts
Concepts relating to shape, size, weight, colour, texture, function, etc. that are based on the physical properties of objects, help the pupil to identify items which are familiar to them. As they come into contact with similar items and attributes they will begin to categorise and organise their surroundings and experiences. This will help to provide them with a more coherent and predictable image of the world.

Symbolic development
This is vital if a pupil's understanding of reality is not going to be restricted to the immediate concrete environment. Firm concepts relating to everyday objects and activities are necessary before symbolic development can take place. Initially objects are identified by their function and the actions that are involved in their use. The object can then later be used to represent an activity or a place.

Range of Activities (Some suggestions)

- Looking and listening activities
- Tactile exploration
- Movement activities
- Exploratory activities
- Turn taking games
- Imitation
- Placing/ matching/ sorting activities
- Use of switches
- Story / song/ drama
- Theme work