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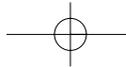
Functional Learning

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3.1 FUNCTIONAL LEARNING DEFINED

The term 'Functional Learning' evolved from the work at High Wick Hospital and the working collaboration between George Stroh and Geoffrey Waldon in the 1970s (see 1.3). Waldon had used the term 'fundamental general understanding' to refer to the experience gained from self-motivated, effortful, independent, pleasurable early play and exploration carried out under what he termed 'a-social' or non-social conditions; he regarded this experience as the basis of all future learning. Stroh wanted to broaden the term. 'Functional', to paraphrase the Oxford Dictionary (The concise Oxford Dictionary of current English, 1995), refers to a special kind of activity that fulfils its purpose. It was this idea of activity with a purpose that Stroh wanted to convey. So the term Functional Learning was adopted to describe the unique integrative approach



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that was developed with its focus on the facilitation of the early Learning Tools, while recognizing the vital importance of emotional development.

The work of Greenspan and colleagues in the USA, who also use the term functional, is perhaps closest to the therapeutic intervention of Functional Learning in helping children with developmental delay and their parents. 'The infant or young child's functional emotional developmental level reveals how the child uses everyday functioning to integrate all capacities (social, motor, cognitive, language, spatial, and sensory) to carry out emotionally meaningful (i.e. functional) goals. We call the six core capacities "functional" for two reasons. First, they enable the child to interact with and comprehend his or her world. Second, they orchestrate many other capabilities' (Greenspan and Wieder, 2006). Through research and observation of many different kinds of developmental problems, a new way of working has been developed, providing a comprehensive developmental approach and a therapeutic intervention tailored to the needs of each individual child. Both approaches acknowledge the interdependence of emotional and cognitive growth. The difference is one of emphasis.

3.2 LEARNING, EMOTIONS AND NEUROSCIENCE



In acknowledging the importance of the emotional life of the child, Functional Learning reflects recent research in neuroscience demonstrating the vital link between cognitive and emotional processes. It has been recognized that emotion plays a critical part in learning, reasoning and creativity and in organizing and integrating brain function (Damasio, 1998; Gerhardt, 2004; Siegel, 1999). Information from clinical practice is being considered alongside scientific evidence, and ideas about 'feelings and the critical significance of early developmental experience', which have usually been the concern of psychotherapy, are informing scientific research (Carroll, 2003). In particular, Allan Schore (2001) has been instrumental in bringing together Bowlby's ideas on attachment and data from brain research, suggesting that 'the early social - emotional interaction between the primary caregiver and the infant impacts the development of the [baby's] brain.'

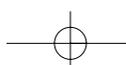
3.3 FACILITATION OF THE LEARNING TOOLS



■ CONDITIONS FOR LEARNING

It may be useful at this point to remind ourselves of the characteristics of early play and learning:

- Early pre-verbal play is self-motivated.
- No, or very little, language is used.



- This play is quiet, effortful, and repetitive and carried out with concentration.
- There is no fear of failure.
- There is not necessarily an end goal – the activity is carried out for its own sake.
- Pleasure is intrinsic – there is no training, cajoling or social reward.
- The adult simply provides a safe, supportive environment.

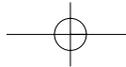
Functional Learning simulates as closely as possible the experience of the normal young child during self-motivated play, where learning is non-social, open-ended, not dependent on rewards and largely free from language direction. It offers a range of learning activities for the delayed child, to facilitate the Learning Tools within the structure of individual learning sessions. Once the earliest Learning Tools become established, parents will be able to provide their child with many opportunities within the home environment for 'doing' and exploring. As the child's curiosity and self-motivation begin to grow, with parents' emotional support, play does become a pleasurable, shared experience.

■ THE LEARNING ENVIRONMENT



Although initially the learning sessions take place under controlled conditions, they are part of a multi-dimensional dynamic process that provides for great flexibility and creative opportunities to extend and vary activities once the child is settled. On the CD, you can see children sitting at the table working, with practitioners and parents helping them. The following guidelines will help you to provide an appropriate learning environment for Functional Learning sessions:

- Ideally, you need a quiet workroom for the individual learning sessions or, within a classroom, a work station if possible as described in Chapter 20.3. For the learning sessions at home, parents will need to organize a special workspace, which could be in the child's bedroom.
- You need a working table that is wide enough and long enough for the child to be able to reach to full arm's length in all directions, to help the child develop a wide range of body movement and to encourage maximum effort.
- It is helpful if the table is placed facing an empty wall to cut down distractions, to allow the child to focus on the learning activities.
- The chair should be an appropriate size for the individual child.
- For the smaller child, you can put a stool under the child's feet so that they can feel safe, supported and contained at the table.
- You need to sit just behind or to one side of the child, so that the child's focus is the activity on the table. This also makes it easier to help the child by guiding their hands if necessary.



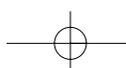
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- The materials for the activities are prepared before the session so that you do not need to move away from the table. Any movement can distract the vulnerable child who may also feel anxious if you move away and the flow of the activity is interrupted.
- Later on, when the child is competent enough to work alone, there will be times when you can move away while the child continues to work independently.
- The activities are continuous, like the activity of the typical young child playing, without a sense that it's moving towards an end. Within each activity, the same materials are often used in different ways, and one activity flows into the next, building up the child's interest, concentration and motivation.
- Verbal instructions or explanations are kept to a minimum during the learning activities, so that the child can concentrate on what they are doing. Some simple language can be added later, when appropriate, once the child's understanding begins to develop.
- It is not necessary to say 'no' or 'that's wrong', but to be supportive of the child's efforts. Just like the early play and learning of the normal infant, everything the child does is good when working at the activities, trying to understand and solve problems.
- Praise or other rewards are not used while the child is working. The focus is always on the doing, and sometimes a few simple words can be used to convey this to the child, such as 'This is for you', 'It's your work', or 'You are learning'.

3.4 SECONDARY DEFENSIVE BEHAVIOUR

Change is difficult for children with developmental delay and produces feelings of discomfort. During the initial new physical experience of sitting on a chair, the child's secondary defensive behaviours may increase. These can include anything from constantly asking for a favourite toy or a drink of water to actual physical withdrawal, pushing things off the table, or screaming, raging and attacking. It is not always easy, but it is important to try to remain calm and tolerant in the knowledge that the child's strong feelings of unease and discomfort are a reaction to having to change their familiar patterns of behaviour. Avoiding confrontation or punishment, but staying with the child, helping them to remain at the table and to use the learning materials, sets limits which will also give them a sense of security.

There are various strategies that can be used to help lower tensions and anxieties, so that the child finds it less necessary to resort to these maladaptive



responses, releasing more of their energies for the Functional Learning activities. Observing the child's body cues and making immediate changes in the work if they show signs of anxiety, agitation or distress – perhaps returning to an earlier, more familiar activity or reducing the amount of materials – allows the child to settle and carry on. Sometimes for the very young child who is upset and crying, if the parents are there, the work can be stopped and the child settled on the parent's lap for a short time, until they can gradually be helped back to the chair once they feel safe.

Gradually the child does settle down, finding that under these special conditions the secondary defensive behaviours are no longer effective and are in fact quite unnecessary. Parents may find it harder at home to manage the resistance, when their child may try to pull their hands away or push things on the floor, which is often very upsetting. But they do find ways of coping, sometimes rather unexpected ones. The parents of one child said they found their son's resistance so intolerable they started to throw beanbags at each other!

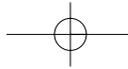
3.5 HOW TO SET UP FUNCTIONAL LEARNING SESSIONS

THE MATERIALS

Children with developmental delay are limited in their play and generally do not use a wide range of traditional toys or play materials to explore and learn. Functional Learning activities create opportunities for these children to begin to learn and solve problems, giving them the Learning Tools to explore their environment. Apart from large wooden bricks which usually need to be bought – though there are schools and families who have made their own – the Functional Learning sessions use common everyday objects found in the immediate environment and familiar to most children. As the children progress and develop, there is a need to extend the activities; one of the ways of doing this is to use card material. Many examples of the learning materials and a range of cards are illustrated on the CD.

In the clinic or classroom setting or at home, it is important to have some way of storing and organizing the materials that will be used for the special learning sessions, either on open shelves or in a large cupboard with plenty of shelf space, so that they are always available when needed. Particularly for those children who may wander aimlessly, pulling things off shelves or out of cupboards, it is also a way of helping them to understand that you are looking after these special materials to help their learning, and that they are not to be broken or destroyed.

- Materials for each session are placed close to the working table, to be easily accessible.
- They may vary in amount or variety from session to session, but there will always be a few basic materials which are common to, and necessary for, every session.



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- They include a number of plain wooden or plastic trays; small non-breakable dishes; a variety of containers such as boxes, bags and tins of different sizes, shapes and materials; and specially-made wooden boards for Pairing, Matching, Sorting and Sequencing.
- Collections of everyday objects as well as sets of cards can be kept ready for Pairing, Matching and Sorting, depending on the needs of the individual child.
- It is useful to keep a container of large wooden bricks to be used if the child's behaviour gives cause for concern. You can then help the child to continue working by switching to earlier well-known activities such as Placing with bricks.

■ USING CARDS

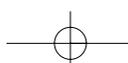
Sets of custom-made cards have an enormous variety of uses and many qualities that make them invaluable for Functional Learning activities.

- They fulfil the need to extend and practice all the Learning Tools.
- They are convenient, do not take up a great deal of space and can easily be filed and stored so that they can be readily selected for immediate use.
- The 5 cm square cards that are used are a good size for even small children to handle.
- They can provide a wide selection of single-image information, from a simple black-and-white outline to the most complex coloured picture.
- They can help prepare the child for using books which can otherwise be overwhelming, with too much information.
- With a supply of blank cards always available, sets of cards can be made during the Functional Learning session to help extend an activity or to fill any information gaps for an individual child.
- They offer great flexibility – they can be used in individual sets or in combination with other sets or even with objects.

More details about using sets of cards can be found under the individual Learning Tools in Section II.

■ PLANNING THE LEARNING SESSIONS

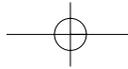
Functional Learning sessions are designed to meet the needs of the individual child. Each session needs to follow a natural progression of activities, always working within the child's level of competence by giving them things they are familiar with and can do. This ensures the child's success and makes it unnecessary for them to fall back on the secondary defensive behaviours. Through constant repetition of things they can do, while all the time making small variations, chance things happen which lead to new learning and understanding.



It is important to be flexible and, although each session is planned in advance, changes may have to be made to meet the needs of the child at the time. The following plan for Functional Learning sessions is therefore only a suggested plan and will always need to take into account the immediate needs of the individual child. It is not meant to imply that each session covers all the activities – the intention is to illustrate a possible progression of activities, but where you start for each session and what you include will always depend on the child you are working with. Sometimes an entire session may focus on one of the Learning Tools; at other times you will use a range of activities for different Learning Tools.

The chapters in Section II describe specific activities for each of the Learning Tools. But there are certain general guidelines that apply regardless of the Learning Tools you are trying to facilitate.

- For children who are just beginning to establish the earliest Learning Tools, start with an activity that involves using large body movements such as placing bricks in buckets.
- You can extend this initial Placing, helping the child to use alternate hands for placing beanbags in large bowls.
- Banging with sticks is another activity that you can use to facilitate large body movements. Moving and stretching across the whole table increases the child's effort and range of movement.
- This can then lead on to scraping movements, extensive movements using sticks and then thick crayons, one in either hand, making marks on paper, stretching over the whole table.
- Continue with a variety of Placing activities, including placing rings on sticks, screwing and unscrewing large wooden screws, and putting objects such as pieces of a very simple puzzle in containers (zip bags, tins, boxes).
- If the child has not had much experience of handling objects, Piling activities offer plenty of opportunities for moving different materials around, where the interest is more in the doing than in the outcome. A variety of materials suitable for Piling can be kept in large containers, ready for piling on to a table and being moved around at random, exploring the different things that happen every time an object is moved.
- For the child who is ready, you can use an early Pairing activity with objects after some initial Placing.
- Once Placing and Pairing are well established, Matching on the matching board can be introduced, with objects then with cards.
- You can also include simple Sorting activities in the session, with objects first before moving gradually into Sorting with cards on the sorting boards. Even when a child is Sorting with cards, object Sorting still continues, using increasingly complex sorting categories.



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- After practice with the many learning activities to encourage the development of movement and exploration of space, children are ready to move on to Brick Building to extend their knowledge and understanding of spatial relationships.
- Some Sequencing is associated with Placing, in the sequence of actions involved in putting objects in containers, but you can now add activities to establish Sequencing as a Learning Tool.
- Once children can pair, match, sort and sequence and have begun to develop conceptual thinking, activities like Coding and Intersectional Sorting can be introduced, and eventually all of the Learning Tools can be extended onto worksheets.

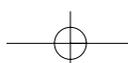
■ ADDITIONAL ACTIVITIES

Once the child is settled and beginning to develop the earliest Learning Tools, other activities can be introduced, perhaps towards the end of a session. You can give the child a large container of mixed materials, similar to the treasure basket (Hughes, 2006) to encourage independent exploration and play. You might give the child some metal chains which they can put in and out of a selection of containers. You can use play dough to help the child roll, cut and make simple shapes with pastry cutters. If the child is beginning to make marks on paper spontaneously, you can give them thick crayons to produce their own drawing. Use large sheets of paper, providing a new sheet as soon as the child has covered the space or indicated that they need more.

At the end of a session, the child may want to return to some of the materials used during the learning activities – a positive response to the pleasure of doing and a move towards self-initiated and self-motivated play. The reward is in the activity and the bonus is the child wanting to continue. The goal is for the delayed child to learn, explore, play and understand for themselves. This is not dependent on social rewards from the adult. It is not necessary to praise the child during the session; it is more positive to offer more activities so the reward is in the pleasure of doing more. Although rewards and praise are not used, the adult's body language and, at times, a few appropriate words communicate to the child that they share the child's pleasure in the activities.

3.6 THE EMOTIONAL DIMENSION

The intensive Functional Learning work does not preclude the emotional dimension. It is important to be alert to the child's feelings, often reflected in their body language (Stroh and Robinson, 1988). They may stamp their feet, stiffen their arms, make their hands go floppy, slip under the table, throw things, grimace, make noises, or cry. You may need to change the focus of the session to deal with these feelings. You can move the child's chair so that they can see your face, which needs



to remain calm and relaxed. Using very simple language, you can help them understand what is happening: these are baby feelings; you are sad; you feel hurt; you are a growing boy/girl; you can change those feelings; we can help your sad feelings; you are safe; the work is for you; mummy and daddy can help you too. Sharing these feelings and relieving the immediate distress allows the child to return to the activities on the table. Eventually, they will start to use their own words to describe their feelings instead of resorting to the early primitive body language.

3.7 FREQUENCY OF THE LEARNING SESSIONS

Functional Learning sessions last for one to two hours. For some children, an intensive six-month period of weekly sessions is followed by a period of monthly follow-up sessions. Other children, whose development is severely delayed, may need a more prolonged period of treatment. Once the programme is started, regular Functional Learning sessions at home are vital. A time needs to be set aside each day – half an hour to start with, extended to an hour or longer as parents become more familiar with the ideas.

3.8 USE OF VIDEO

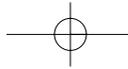
An exchange of video is extremely helpful to the progress of the treatment programme. A video of a working session can be made at regular intervals and edited for parents to use at home, to help them continue the daily practice. For some families, distance therapy is an option, a combination of periodic intensive sessions over two to three days, supplemented by a video exchange between parents and therapist to monitor progress.

It is extremely hard work and very demanding of parents' time and energy. Parents have many different demands made on them, and may have to make some very difficult decisions in order to have time available for this vital therapeutic input for their child. But, of course, when they see their child's emerging learning and increased responsiveness, they are always encouraged to continue.

3.9 ADAPTING FUNCTIONAL LEARNING TO DIFFERENT CHILDREN

THE OLDER CHILD

Although the current work in neuroscience suggests that the brain organizes itself in response to input received very early in development, it also reports that learning does continue into later years. According to the neuroscientist, Jay Giedd (2002), research has revealed that the brain is extremely plastic. For some



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time it was thought that most things were set in place during the early years. But it is now known that there is enormous capacity for change throughout childhood and into the teen years.

Clinical experience shows that older children from seven years onwards with developmental delay can benefit from Functional Learning, but it takes longer to establish the Learning Tools. As children get older, any secondary defensive behaviours become more firmly established in response to their fear of failing, poor self-esteem and the often inappropriate expectations of the environment. These problem behaviours can become so pervasive that they obscure the developmental delay which is the primary problem. But if you can contain the strength and pain of the child, which may be more difficult because of the child's size, you can help them begin to channel these energies into the learning activities.

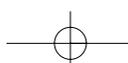
Some aspects of the Functional Learning environment and the learning materials may need to be modified. For example, you may need a much larger table and chair. To increase effort and range of movement proportional to body size, the child can stand up at the end of the table to extend their reach. You can provide heavier bricks, or even milk cartons filled with sand, for placing vigorously and continuously into a strong container. Picking up and placing can continue in the outside environment, by getting the child to carry buckets, filling them with stones or water for the garden. The child can help push a trolley in the supermarket, loading up the car with the heavy bags and taking them into the house. These activities will take practice but they will be within the competence of most children. Once the child begins to put their energy and effort into the placing activities, taking pleasure in this kind of body movement, the secondary defensive behaviours will lessen. Other Functional Learning activities can then be provided, such as Piling, Banging, Pairing, Matching and Sorting, always at a pace suited to the individual child.

■ CHILDREN WITH MOVEMENT DISORDERS

Children with movement disorders such as cerebral palsy need a great deal of help to overcome difficulties in sensory processing and motor planning, in order to achieve the levels of self-regulation needed to successfully interact with and explore their environment. Young children with motor planning difficulties can be given Functional Learning activities by liaising closely with physiotherapists, whose experience of functional movement can be incorporated into the Functional Learning sessions.

3.10 FUNCTIONAL LEARNING AND EDUCATIONAL INITIATIVES

Functional Learning and its underlying philosophy that every child can learn fits in well with educational initiatives like Birth to Three Matters (Department for



Children, Schools and Families, 2002), Foundation Stage (Qualifications and Curriculum Authority, 2000) and Early Years Foundation Stage (Department for Education and Skills, 2007). There are common themes – the importance of a secure, loving relationship with parents and carers; an appropriate environment suited to children’s changing learning needs as they grow and develop; the knowledge that children develop and learn in different ways and at their own pace; and agreement that all areas of development and learning are interconnected.

A brief survey of some of the central ideas indicates that there are many other ways in which Functional Learning principles coincide with these educational initiatives in providing for children’s learning needs. Play underpins the development and learning of the young child. Through play, children explore and make sense of their world. These learning experiences help them to develop ideas and concepts, think creatively, and problem-solve, establishing a firm foundation for all future learning. Children learn by doing, developing their body coordination and control, fine movement and manipulation. Functional Learning, along with these initiatives, has similar things to say about the basis for the development of communication, reading, writing and number. Very young children use gesture and body language and, as they develop, their language and communication grows from their early play and learning. They also develop mathematical understanding through their early play experiences with shape, size, pattern, sorting, and matching.

Another theme in common, highlighted by the Social and Emotional Aspects of Learning (SEAL) framework (Department for Education and Skills, 2005), is the crucial importance of taking into account and supporting the emotional development of the child. It is accepted that the emotions play a central role in learning experiences. Helping children develop a sense of self, feel good about themselves, and understand their feelings and why they make them behave the way they do are all important to learning.

With so much in common, it means that Functional Learning can play an important role in helping children with developmental delay to establish a foundation of early play and learning, so that they can be supported in a similar way in nursery or school. For those children who are not yet able to take immediate advantage of the learning environment provided by a nursery or school setting within mainstream education, Functional Learning helps to establish their Learning Tools and support their emotional development so that they can begin to join in. It is possible to help an individual child using Functional Learning principles, within a nursery or school classroom, with the support of a teaching assistant as described in Chapter 20.

